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THE

TREASURY OF KNOWLEDGE

AND

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VOL. III.

CONTAINING

A MILLION OF FACTS,

OR

COMMON PLACE BOOK

OF SUBJECTS OF RESEARCH AND CURIOSITY IN THE ARTS AND SCIENCES, HISTORY CHRONOLOGY, AND LITERATURE; EMBRACING SKETCHES OF

JEWISH HISTORY, AMERICAN HISTORY,

AND

HISTORY OF AMERICAN LITERATURE.

ALSO,

AMERICAN BIOGRAPHY,

OR

ORIGINAL BIOGRAPHICAL SKETCHES OF DISTINGUISHED AMERICANS.

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PREFACE TO MILLION OF FACTS.

This part of the Treasury of Knowledge, called "A Million of Facts," is based on the English book of that title, from the memoranda of an eminent scholar and publisher of London, but the work has been in a measure remodelled here. The sections relating to Geography, Mythology, and some other subjects, have been anticipated in the former parts of the Treasury of Knowledge, and other valuable matter has been added, in their place, to this portion of the work.

Among the original contributions now comprised in this part, are the following by the late Samuel L. Knapp, Esq., a distinguished American scholar and writer, viz: a sketch of the Literature of the Jews; a succinct History of American Literature, from the earliest times, giving a sketch of some of the most important writers and their works; also, brief annals of American History, with a cursory view of the rise and progress of the Useful Arts among us; and other incidental facts as they came to the mind of the author, which he thought might be acceptable to the reader.

That portion of the work under the head of "Atmospherical and Aerial Phenomena," has been revised by William C. Redfield, Esq., whose writings on scientific subjects have gained him a high reputation in this country and in Europe; and many interesting facts will be found stated here, which do not appear in the Encyclopedias and other standard works. The articles under the head of "Physical Geography," have been prepared by the same hand.

A volume like this may be taken up as a matter of recreation, when the reader has but a short time to spare, and some valuable facts may be stored in his memory for future contemplation and use. When one becomes acquainted with the memoranda contained in this "Million of Facts," he will be surprised to find many things that he has been years in search of, and could not tell where to lay his hands on them. The fields of knowledge are now so extended and so crowded, that the most industrious in the pursuit of information will be thankful for indices and directories in his course.

ADVERTISEMENT.

Facts are the data of all just reasoning, and the primary elements of all real knowledge. The wisest man is he who possesses the greatest store of Facts within the command of his understanding. A book, therefore, which assembles Facts from all their scattered sources, may be considered as a useful and important auxiliary of Wisdom. It lays claim to be the companion of all who earnestly seek truth at the fountain-head; of all who think for themselves, or who desire to be thought to do so; and of all who desire to correct errours in themselves or in others.

The pretensions of the present Editor are a prolonged and uninterrupted intercourse with men and books. He has for forty-two years been occupied as literary conductor of various publick journals of reputation; he has superintended the printing of some hundred books, in every branch of human pursuits; and he has been intimately mingled with men celebrated for their attainments in each of them.

This work will however be variously estimated by different persons in sympathy with their favourite pursuits. Every one will expect more on his own subject than the execution could permit. Portable size, moderate price, and generalizations were its essential elements. If larger, more costly, or more detailed on particular subjects, it would not have been, as designed, a book of universal utility.

The class of facts have generally been preferred which bear the modern name of statistical, since numbers are the least remembered, and therefore, in regard to them, an auxiliary is the most required. But a succession of such details would have been intolerably dull, and the Editor has, therefore, intermingled them with facts more piquant to the imagination, so as to produce a diversity of information that may often be perused with pleasure in uninterrupted succession.

For the same reason, logical analysis and synthesis have been avoided, and order, as such, disregarded, except in the juxtaposition of similar topicks, and the arrangement into chapters. A readable Book of Facts was the object, and it is to be hoped that the execution has been such as is best suited to its attainment.

In its nature the book is not one of opinion or doctrine. Some subjects, however, have extorted inferences, the withholding of which would have been to compromise truth, and exhibit a coldness of feeling little creditable to the Editor.

On the Title of the work it may be remarked, that, though it limits the contents to a MILLION of facts, yet, in truth, the volume, directly or indirectly, contains FAR MORE. It is not pretended, however, that it contains all facts, since facts are infinite in number, but only such as best illustrate the subjects, and as are the most likely to become objects of inquiry and reference. Million, in this sense, is like the Hebrew word forty, meaning a number undetermined, and either a million, or forty, more or less. No generick word like collection, assemblage, multitude, &c. so aptly expressed the comprehensive extent of the work as the word million; for, besides its literal truth, it implies that the book may be used in a million of cases of inquiry, and further, that it has claims to be received, in due time into a MILLION OF FAMILIES.

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THE

BOOK OF FACTS,

OR,

UNIVERSAL COMMONPLACE-BOOK

MEASURES OF CAPACITY.

MEASURE is length, breadth, and thickness, estimated by known lengths, or compared by other known quantities: thus there are 12+12+12 =1728 cubick inches in a cubick foot; and 3×3×3=27 cubick feet in a cubick yard.

The *Imperial gallon* is 277.274 cubick inches. A gill, or quarter of a pint, is 8¾ inches.

The Imperial gallon contains 10 lb. avoirdupois of distilled water, weighed in air, at 62°, with the barometer at 30 inches. Two gallons a peck, eight a bushel, and eight bushels a quarter.

One English wine gallon is equal to .0833111 Imperial gallon.

One ale gallon=1.017045 Imperial.
One corn bushel=0.96943 Imperial.
One Imp. gallon=1.20032 wine gall.
One Imp. gallon=0.933241 ale gall.
One Imp. gallon=1.03152 corn gall.

An Imperial gallon is 4.843452 litres.

Heaped measure, per bushel, is 2815½ cubick inches clear.

The standard bushel kept at Guildhall contains 2145.6 cubick inches of water, weighing 1131 oz. 14 dwts.

The Winchester bushel is 18½ inches diameter and 8 inches deep, containing 2150.42 cubick inches.

A quarter of corn is the fourth of a ton, and eight bushels, or two sacks.

A strike is four pecks.

1000 ounces of rain water are equal to about 7½ gallons wine measure, or to a cubick foot.

7lb. avoirdupois is a gallon of flour.

A chaldron of coals is 58¼ cubick feet.

Twelve wine gallons of distilled water weigh 100 lbs. avoirdupois.

Nineteen cubick inches of distilled water at 50°, weigh 10 oz. troy.

A cubick inch of distilled water at 62°, in a vacuum, is 252.724 grains.

The Imperial measure for heaped goods contains 80 lbs. avoirdupois of distilled water, and is 19½ inches from outside to outside at the bottom; the heap to be in a cone at least six inches high from the outside: three making a sack and twelve sacks a chaldron, which ought to weigh 28 cwt.

The Imperial dry bushel, when not heaped, is 2218.192 cubick inches; the peck 554.548; gallon 277.274, and quart 69.3185. The bushel is 8 inches deep, and 18.8 wide; with a heap 6 inches high.

A tun is 2 pipes, 4 hogsheads, 3 puncheons, 8 barrels, or 252 gallons. A pipe of port is 138 gallons; of Lisbon 140; Maderia 110; and Sherry 120. The hogshead of Claret is 57 gallons, and the aum of Hock 36 gallons; Teneriffe 120, and Cape 20.

A tun of wine is 2 pipes, and each pipe 2 hogsheads of 63 gallons.

A tun of beer is 2 butts, and each butt 2 hogsheads of 54 gallons.

A bushel of wheat is 60 lbs., rye 53, barley 47, oats 38, peas 64, beans 63, clover seed 68, rape 48 lbs.

53 cwt. is a chaldron at Newcastle. A keel of 9 Newcastle chaldrons is 15½ London chaldrons.

The Imperial corn bushel of 2218.192 cubick inches, is to the Winchester of 2150.42, as 32 to 31.

The Imperial coal bushel of 2816.459 inches, is $1\frac{1}{2}$ inches more than the old coal bushel of 2814.9.

The Imperial wine measure is to the old measure as 6 to 5; 5 imperial gallons being 6 wine gallons and $\frac{1}{1500}$th over.

The new and old ale measures are as 60, to 59.

To convert old corn measure into new, multiply by .96943 or $\frac{31}{32}$; wine by .83311 or $\frac{5}{6}$; ale by 1.01704 or $\frac{59}{60}$.

Wood, the fuel of France, is sold by the cords of 576 square feet; and 80 square cordes make what is called a journal.

At 70° the specific gravity of water is 0.99913; at 38° is 1.00113; and at 54° is 1.00064. The difference between 62° and 39° in a gallon of 277.276 inches, is one-third of a cubick inch.

A last is a commercial measure, of twelve barrels of soap, ashes, herrings, &c.; ten quarters of corn, or two cart loads; twenty-four barrels of gunpowder; twelve sacks of wool; and 1700 lbs. of flax or feathers.

A Scotch pint is four English pints.

A Scotch pint is 105 cubick inches, and a wheat farlot $21\frac{1}{4}$ Scotch pints.

The Scotch quart 206.8 cubick inches.

A tub of butter is 84 lbs. and a firkin 56 lbs.

A Scotch boll is an English sack.

A soldier's canteen contains three pints.

The *litre* is 61.0279 English cubick inches, or $2\frac{1}{4}$th wine pints.

The *stere*, or cubical metre, is 35.3171 cubick feet English.

There are 5452670000 cubical yards in a cubick mile.

A Roman quadrantal was a cube containing 80 lbs. of water, or 48 sextaries and 8 congii. A gower was 7 pints.

The *Ephah* was the sixth part, or 1747.7 cubick inches, nearly an English cubick foot.

The Winchester bushel is 35.2466 litres. The stere is 35.317 cubick feet.

WEIGHTS.

Weight is the tendency or force with which bodies of various density tend to fall towards the earth.

The standard of weights is the cubick inch of distilled water, weighing 252.458 troy grains; the troy pound 5760 grains, or 22.8157 inc. The same standard of 7000 troy grains makes the pound avoirdupois, 27. 7274 cubic inches: ten of which, or 277.274 being the Imperial gallon; a quart 69.32; and a gill, of 5 oz. of water, equal 8.664.

In Troy Weight, 24 grains make a pennyweight, (meaning grains of wheat) 480 an oz. and 5760 a lb.; or 20 dwt. an oz. and 12 oz. a lb.

In Apothecaries' Weight, 20 grains make a scruple, 60 a drachm; and then as in troy weight, 480 make an oz., and 5760 a lb. There are 12 ounces to the lb., 8 drams to an ounce, 3 scruples a dram, and 20 grains or drops to a scruple. The dram is 60 grains.

In Avoirdupois Weight, 16 drams make an oz. 256 a lb.; 16 oz. a lb.; 112 lb. a cwt.; and 20 cwt., or 2240 lbs., a ton.

175 lbs. troy are equal to 144 lbs. avoirdupois; and 175 oz. troy are equal to 192 oz. avoirdupois.

80 oz. avoirdupois are equal to 73 oz. troy; and 14 lbs. avoirdupois to 17 troy. A troy pound is 13 oz. 2.65 drams avoirdupois; and a lb. avoirdupois is 1 lb. 2 oz. 11 dwt. 16 grs. troy.

The avoirdupois lb. of 7000 grains is 453.61 French grammes; and the troy lb., 5760 grains, is 373.14 grammes.

One troy lb.=0.822857 Imperial lb.

One Imp. lb.=1.215271 lb. troy.

Henry III. enacted that an ounce should be 640 dry grains of wheat; 12 oz. a lb.; 8 lbs. a gallon of wine; and eight gallons a London bushel. Latterly, the malt liquor measure has been 282 inches to the gallon, and the wine measure 231.

7000 grains of water. thermometer

62 degrees, and barometer 30 inches, are 1 lb. avoirdupois.

The French gramme is 15.434 English grains.

The smaller French weights are in tenths, decreasing, as *deci*, *centi*, and *milli grammes*.

The larger are *deca*, *hecato*, *chilio*, and *mirio grammes*, in tenths, increasing.

The kilo-gramme, or 1000 grammes, is equal to 2 lbs. 2 oz. 4 grains avoirdupois.

In Greece, a drachma was 2 dwt. 16 grains; a minæ 1 lb. 1½ oz.; a talent 67 lbs. 7 oz. 5 dwt.

The Roman weights were the As, equal to twelve ounces, and the uncia an ounce.

The American quintal is 100 lbs.

The Mysore cutcha seer is 9 oz. 11½ drams.

A bale of Egyptian cotton is 90 lbs., of Brazil 160, of Georgian and Sea Islands 280, Orleans 300, East India 300, West India 350 to 400.

A pack of sheep's wool is 240 lbs.

The livre, or French pound, is 500 grammes, or 7714 grains English, or 1 lb. 1 oz. 10½ drams avoirdupois. The quintal, of 100 kilo-grammes, is 220.486 pounds.

The Bengal maund is 74 lbs. 10 oz. 10¾ drams avoirdupois; the seer 1 lb. 13 oz. 13.866 drams; the chattock 1 oz. 13.366 drams. The Baza maund is 82 lbs. 2 oz.

A seam of glass is 24 stone of 5 lbs. each.

The weight of a cubick inch of distilled water, in a vacuum is 252.722 grains; and in air is 252.456 grains.

The quintal is ten mirio-grammes, or 2 cwt., or 224 lbs., English, nearly.

A sack of wool is 22 stone of 14 lbs. or 308 lbs. In Scotland, it is 24 stone of 16 lbs.

A pack of wool is 17 stone 2 lbs., or a horse load.

A tod of wool is two stone of 14 lbs. each; and a sack is 12 tod; 12 sacks is a last, or 4368 lbs.

56 or 60 lbs. is a truss of hay, old or new, and 40 lbs. a truss of straw; 36 trusses being a load.

A Spanish quintal is 312 Spanish lbs. The arroba is 25 Spanish lbs., of 6544 grains each; and 6 arrobas make a quintal.

The Portuguese arroba contains 32 Lisbon lbs. of 7005 grains.

The Venetian mirre contains 30 lbs. of 4215 grains.

The Shippondt of the northern nations is, in Sweden, for copper 320 lbs. of 9211 grains, and for provisions 400 such lbs. At Riga it is 400 lbs. of 6149 grains. At Hamburgh 300 lbs. of 7315 grains.

100 lbs. English is equal to 112¾ lbs. of Russia, to 93 lbs. 5 oz. of Hamburgh, and to 132 lbs. 11 oz. at Leghorn, and 104 lbs. 13 oz. in Portugal, and 91 lbs. 8 oz. at Amsterdam.

The commercial lb. of Amsterdam is 7636 grains, and the troy lb. equal to 7602 grains. The Dutch stone is 16 lbs. The Norway lb. is 7833 grains. The Spanish lb. is 7038 grains. The Chinese kin is 5802 grains, or 375 $\frac{2}{10}$ French grammes.

The Turkish lb. is 7578 grains. The Danish 6941. The Irish 7774. The Naples 4952. The Scotch lb. troy 7620.8. The Smyrna lb. 6944.

A cubick foot weighs—

Of loose earth or sand	95 lbs
Of common soil	124
Of strong soil	127
Of clay	135
Of clay and stones	160
Of mason's work	205
Of distilled water	62.5
Of pure gold	1203.625
Of pure silver	654.8
Of cast iron	450.45
Of steel	489.8
Of lead	709.5
Of platina	1218.75
Of copper	486.75
Of cork	15
Of Portland stone	157.5
Of tallow	59
Of oak	73.15
Of brick	125
Of crown glass	180.75
Of fir	34.375
Of mahogany	66.4
Of air	0.0763

MEASURES OF LENGTH.

MEASURES in length are the distance of one object from another in some agreed standard.

A line is the 10th of a digit, and the 100th of a foot.

A *digit* measure is $\frac{7}{8}$ths of an inch, or 4 barleycorns laid breadthways.

A hair's breadth is the 48th of an inch.

A barleycorn is .00217th of a cubick inch, or about 460 make a cubick inch, or 3 to an inch in length.

A geometrical *pace* is 4.4 feet English; and an English mile contains 1200, or 1760 yards, or 5280 feet.

The Paris foot is nine lines shorter than the English foot, or 0.91 to 1.

The Roman foot was 0.915.

The Rhinland or Leyden foot is 0.86925 English

A *Scotch* mile contains 1500 paces.

A *German* mile 4000. A Swedish and Danish mile 5000. The Russian mile 750 paces.

A great league in France is 3000 paces, and a mean league 2500.

A nautical league is $\frac{1}{20}$th of a degree.

A *hand* used for horses is 4 inches.

A degree of latitude is 69$\frac{1}{2}$ English miles at the equator.—*Mudge.*

A nail's breadth is the 16th of a yard, or 2$\frac{1}{4}$ inches.

A surveyor's chain is 4 poles, or 66 feet, divided into 100 links of 7.92 inches. A square chain is 16 poles, and 10 square chains are an acre.

640 acres are a square mile; and 4840 square yards are an acre, 169.58 yards each way.

The Irish acre 7840 square yards.

A French *arpent* $\frac{5}{8}$ths of an English acre.

The Scotch acre 1.27 English.

121 Irish acres are equal to 196 English.

48 Scotch acres are equal to 61 English.

11 Irish miles are equal to 14 English.

60 Scotch miles are equal to 91 English.

The Turkish dreah, or pik, is 3 palmi, or 26.41 inches; and the lesser pik is 19.03 inches.

The jaghire is 10.46 English inches. A cawney is rather more than an acre.

A hide of land was one plough's work.

An ox-gang is 15 acres, or as much as one ox can plough in a year.

The long-line adopted in the navy is 48 feet.

A sea league is 3.4536 miles, or the 20th of a degree.

6078 feet are a sea mile.

A palm is 3 inches. A fathom 6 feet.

The French metre is 36.9413 French inches, or 39.371 English, or 3.2399 feet.

In Greece, a digit was $\frac{7}{8}$ths of an inch, a cubit 13$\frac{1}{2}$ inches, and a large cubit 18$\frac{1}{2}$ inches; a pace 2 yards and $\frac{1}{2}$ an inch, a stadium 201 yards 1 foot 3$\frac{2}{3}$ inches; 8$\frac{1}{3}$ stadia a mile nearly. The plethron, 10000 square feet.

A Bengal coss is 6000 feet, or 1 mile 240 yards.

The haut or cubit is 18 inches.

A baggah of land is 1600 square yards, about a third of an acre.

A span was 10.944 inches.

Ezekiel's reed was 10 feet 11$\frac{1}{2}$ inches.

A sabbath day's journey was 1155 yards, or about $\frac{2}{3}$rds of a mile. A day's journey was 33$\frac{1}{3}$ miles.

The Egyptian cubit, or arduh, was 21.888 inches.

The *Greek* foot was 12$\frac{1}{2}$ inches.

The Hebrew foot was 1.212 English feet. The Hebrew cubit 1.817; the sacred cubit 2 English feet; and the great cubit 11 English feet.

The stadium, 625 feet; and the milliarium, 5000 feet.

The Amsterdam foot is .927; and the ell 2.233.

The Berlin foot .992

The Bologna foot 1.25.

The Brabant ell 2.268.

The Brussels foot .95.

The Chinese imperial foot 1.05.

The Chinese li is 629 yards.

The Turkish foot 1.165.

The Florence foot .995.

The Geneva foot 1.919.

The Hamburgh foot .983.

The Italian mile 5299 feet.

The Portugese foot .952.

The Madrid foot .915.

The Moscow foot .928.

The Neapolitan mile 4 German miles, or 60th of a degree.

The Roman palm .733.

The Roman foot .966.

The Roman mile $\frac{1}{75}$th of a degree.

The geographical or Italian mile is 1000 geometrical paces, or $\frac{3}{4}$ths of an English mile.

The Roman *braccio* is 4 palms.

The *cauna* 8 palms.

The Russian *werst* is 3508 English feet, about $\frac{2}{3}$ds of a mile.

The Scotch ell is $37\frac{3}{10}$ inches.

The Scotch mile 5952 feet.

The Spanish league 4 miles English.

The Swedish foot 1.073 English feet.

The Venice foot 1.14.

The Venice ell 2.090.

The Vienna foot 1.036.

The Vienna post mile 24888 feet.

The Wirtemburg foot 11.28.

The Levant pig is $\frac{3}{4}$ths of the French ell. The Venetian ell is $\frac{8}{15}$ths of the French ell.

The candi, of India, is equal to the Venetian ell. In Siam, the ken is 36 inches nearly, and is divided into 2 soks; these into 2 keubs; and each keub into 12 nions, at $\frac{2}{3}$ths of an inch.

3 inches is a palm: 3 palms, or 9 inches, a span. 5 feet is a pace. 2 yards is a fathom.

The German mile is the 15th of a degree of latitude, or more than $4\frac{1}{2}$ miles English.

A league is 3 sea miles. 17 Spanish leagues is a degree, or about 4 miles, which is the Dutch and German league. The Persian league, or parasang, is 30 stadia or furlongs.

The Paris *line* .0888.

The Paris *ell* 43.9 inches.

The French *toise* 6 feet 4.733 inches.

A French *league* $\frac{1}{25}$th of a degree.

The French *metre* 39.37079 inches. The metre is 443.2959 lines, and .513-074 of a French toise. 8 chiliometres is about 5 miles English. 1000 feet is nearly 305 metres.

The *metre* is the ten millionth part of the quadrant of the earth from the equator to the north pole. It differs slightly from the length of a pendulum which, in the latitude of London, vibrates seconds in a vacuum, at the level of the sea, where it is 39.1393 inches; therefore, the metre is only .23 of an inch longer than our pendulum.

The *millimetre*, or thousandth part, .03937 inches English.

The *centimetre* .39371.

The *decimetre* 3.93708.

The *decameter* is ten times the *metre*.

The *hecatometre* 100 times.

The *chiliometre* 1000 times; and the *miriometre* 10,000 times.

The *are* is 3.95 English perches.

An inch English is 2.54 centimetres; a yard is 0.91438 metres; and a mile is 1609.3149 metres.

The French metre is the ten millionth of a quadrant of the earth, taken as 6217.857 English miles, or 32809167 feet, and a mean degree of latitude at 69.0429. A centesimal degree is 54 minutes. A league at 25 to a degree is 2.7617 miles. A post league 2000 toises, or 2.3 miles English; a toise being 6 feet $6\frac{3}{4}$ inches English. The pied one-sixth of the toise; and the aune 3 feet $11\frac{1}{4}$ inches English.

A degree at the equator is 365101 feet, or 69.148 miles, or $69\frac{1}{7}$ nearly. In latitude 66.20 Maupertius measured a degree of latitude, in 1737, and made it 69.403; and Swanberg, in 1803, made it 69.292. At the equator, in 1744, four astronomers made it 68.732; and Lambton, in lat. 12, 68.743. Mudge, in England, makes it 69.148. Cassini, in France, in 1718 and 1740, made it 69.12, and Biot 68.769; while a recent measure in Spain makes it but 68.63, less than at the equator; and contradicts all the others proving the earth to be a prolate spheroid, which was the opinion of Cassini, Bernouilli, Euler and others, while it has more gene-

rally been regarded as an oblate spheroid.

Degrees of longitude are to each other in length, as the cosines of their latitudes. For every 10° they are as follow:—

Equator,	69.2
10°	68.15
20	65.27
30	59.93
40	53.1
50	44.48
55	39.69
60	24.6
70	23.67
80	12.02

The diameter of the equatorial circle is 41837494.8 feet; and its circumference 131436444 feet, which, in a sidereal day, gives a velocity of 1525 feet per second of rotation.

Then 1525×4=6100 for the velocity of the surface of the whole sphere, which, × 16.08728, the mean force per second, gives 98132 feet per second for the orbit velocity of the earth; and this multiplied by 31558151 seconds in a sidereal year, gives a mean orbit of 586527362.6 miles; and a mean radius, or distance from the earth to the sun, of 93348800 miles. The aphelion distance is 94918500 miles, and the perihelion 91779000.

The pendulum which vibrates seconds 39.1393 inches at London, is the standard for the British measures. 1 mile is equal to 1618.833 such pendulums.

MEASURES OF TIME.

Time is best defined as the succession of motion and phenomena, mdependent of relative human perceptions.

Time is measured by man by the impressions of successive ideas, and these diminish in a ratio of their own increase; consequently, time appears less as men advance in age, or are variously employed. At ten, a year seems to be twice as long as at twenty; three times as at thirty; four times less at forty; five times at fifty; and six times at sixty: circumstances of employment and position being the same. Hence a month employed in travelling seems equal to three of usual pursuits. Time being mentally measured by the impressions of new ideas.

Absolute time, independent of the feelings of individuals, is measured by certain regular motions, as the rotation of the earth, the swing of a pendulum, the fall of a body, the revolutions of the moon round the earth, or the earth round the sun.

The *tropical* year is 365 days 5 hours 48 minutes 51.6 seconds; but the *sidereal* year, or return to the same star is 365 days 6 h. 9 m. 11°; but as the line of apsides or aphelion point advances 655 seconds, the orbit is completed in 365 days 6 h. 15 m. 20 s., and this is called the *anomalistick* year.

The Chaldeans made the sidereal year 365 days 6 h. 14 m., or one minute 49 seconds more than our present year, and the tropical year 365 days 5 h. 49 m. 30 s., being 38 m. 4 s more than ours.

If Hypparchus was right in his measure of the tropical year, it is 11. 2″ less than in his time. The Brahmins made it 1 m. 43 s. more than now.

The precession of the equinoxes is performed in 25868 years; and the revolution of the line of apsides in 20931, or one deg. 43 m. 10″ in a century. The precession of the equinoxes, is 50′ 25″ per annum, or 1° 52′ 45″ in a century, or the 360° in 25868 years.

Leap year is the year which divides evenly by four; but the year 1900 will not be leap year, to make up for the odd minutes gained between the astronomical and computed year, as 365 days.

The astronomical equinoxes are on the 21st of March and 21st of September, and the sun is in the tropics on the 21st of December or June. Quarter days in civil reckoning are March 25, June 24, Sept. 29, and Dec. 25, being festivals of the Catholic Church.

The Synodical lunar month of her departure from the sun's centre to the return, or from full to full, is 29 days 12 hours 44 m. 12 s., and was the universal month of the ancients, twelve being accounted a year.

The difference between the solar and lunar year is $10\frac{1}{4}\frac{2}{1}\frac{7}{5}$ days.

The sun and moon return to the

same relative positions every 223 lunations; according to the ancient Chaldeans in 6585 days 8 hours. Our modern tables make it 17.29′ less.

The Eastern nations, where the day varies little, reckon the day from sunrise. The Romans reckoned as we do, from midnight.

Christian nations assign thirty days to April, June, September, and November, thirty-one to other months, and twenty-eight to February, making three hundred and sixty-five; but three hundred and sixty-six in Leap-year, when February is twenty-nine.

The Romans added the day in Leap-year on the sixth of the calends of March, making two *sixths* or *bis sextus*, and hence the word Bissextile.

The *astronomical* day is the time which elapses from the sun's being on the meridian of a place till his return, divided into twenty-four hours of sixty minutes. And astronomers begin the day at the departure of the sun from the meridian of the place, counting twelve hours till midnight, P. A. or after; and twelve hours from midnight till noon A. M. or before: their day after twelve at night being a day later than *civil reckoning*, which begins a new day at twelve at night, and reckons from twelve at night to twelve the next night.

As the earth advances in its orbit 61′ 9.9″, when in its perihelion, and only 57′ 10.7″, when in its aphelion, while it returns the same meridian to the sun, that meridian arrives at the same *fixed* star in twenty-three hours 56′ 41″ or 3′ 559″ less; others make it twenty-three hours 56′ 34″ and 3′ 56.6″.

Sidereal days are always the same, and accord with a true clock; but owing to the unequal velocity, as expressed, of the earth in its orbit in the perihelion and aphelion, the sun's return to the meridian varies; and also as the earth's path is inclined to the axis of rotation, the solar days vary. Owing to the first cause, the extreme difference is 7′ 39″ on March 21, and 6′ 5″ on May 6; 0 on July 1, making the sun slower than the clock; but owing to the obliquity it is 0 on March 21; 9′ 53″ on May 6th, and 0 June 22, making the sun faster than the clock. The combination of both causes produces the table of equation of time by which true clocks ought to be kept faster or slower than the meridian sun or a sun dial, called *apparent* time, and the other true or mean time.

As the earth moves forward in its orbit 59′ 8.3″, while it turns on its axis, any place arrives at a fixed star 3′ 56. 6″, before it arrives again at the centre of the sun, called twenty-four hours; hence the sidereal day is but 23 h. 56′ 3.4″, which is the real period of revolution.

Hence, in 366 solar days, the earth turns 366 times on its axis, and by this exact quantity it gains in its orbit with reference to the sun and stars in every revolution, and hence the precession of the equinoxes. For as the orbit is caused by the sun, and the equinoxes have reference to the sun and not to the stars, so the equinoxes fall back 24,890 miles, or in space 50.3″, with reference to the stars. Every other body like the earth turns once on its axis by going round a central body, and this therefore is the sole cause of the equinoxial points.

The Chaldeans, Egyptians, and Jews, began their civil year from the autumnal equinox. The Persians, Greeks, Romans, and the English till 1752, began the year at the vernal equinox. Thence to make dates agree with those of other nations, between January and Lady-day, our writers used to put two dates, as

Feb. 10, $\frac{1708}{1709}$ The bottom date being from Jan. 1, and the upper that from the previous Lady-day.

Sidereal days are always 23 h. 56′ 3.4″; but as the axis of the earth is inclined to the orbit, and the earth moves faster in the winter than in the summer, the clocks which measure equal time do not agree with the sun. A clock and a sun dial will therefore vary as under.

March 21, clock too fast 7′ 35″; April 5, do. 2′ 55″; April 20, June 13, Sept. 5, Dec. 25, they are equal When the sun is in Libra and Scorpio, or in October and November, the difference is from ten minutes to 16′ 19″, and the clock ought to be so much faster than the dial.

The difference of velocity makes the dial faster than the clock, while

the earth is moving from its perihelion on January 1, to the aphelion July 1; and on the contrary, the dial is slower from July 1 to January 1. But the obliquity makes the dial faster from March 21 to June 22; and from Sept. 22 to Dec. 21, and slower from June 22 to Sept. 22, and from Dec. 21 to March 21. The union of both produces the common equation table as under, showing to the nearest minute how much a true clock should be faster or slower than the sun.

Months.	Days.	Equ. in Minutes.		Months.	Days.	Equ. in Minutes.	
Jan.	1	4	Clock faster than the Sun.	Aug.	9	5	Clock faster.
	3	5			15	4	
	5	6			20	3	
	7	7			24	2	
	9	8			28	1	
	12	9			31	0	
	15	10					
	18	11		Sept.	3	1	Clock slower than the Sun.
	21	12			6	2	
	25	13			9	3	
	31	14			12	4	
Feb.	10	15			15	5	
	21	14			18	6	
	27	13			21	7	
Mar.	4	12			24	8	
	8	11			27	9	
	12	10			30	10	
	15	9		Oct.	3	11	
	19	8			6	12	
	22	7			16	13	
	25	6			14	14	
	28	5			19	15	
Apr.	1	4	Clock faster.		27	16	
	4	3		Nov	15	15	
	7	2			20	14	Clock slower than the Sun.
	11	1			24	13	
	15	0			27	12	
					30	11	
	19	1	Clock slower.	Dec.	2	10	
	24	2			5	9	
	30	3			7	8	
May	13	4			9	7	
	29	3			11	6	
June	5	2			13	5	
	10	1			16	4	
	15	0			18	3	
					20	2	
	20	1	Clock faster.		22	1	
	25	2			24	0	
	29	3					
July	5	4			26	1	Faster.
	11	5			28	2	
	28	6			30	3	

The Pendulum for true and exact measuring of time was a suggestion of Galileo, in consequence of his observing the oscillations of a chandelier in a cathedral. Every oscillation, whether long or short, of the same pendulum, is performed in the same time. A pendulum which vibrates seconds at London, ought to be 39.139 inches nearly, and the length of pendulums for less or greater times is as the square of the times: thus, for half a second it would be the square of $\frac{1}{2}$, or $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$; so that $\frac{39.139}{4} = 9.78425$ inches is the length of a half second's pendulum at London.

At St. Thomas', in lat. 28°, the second's pendulum is 39.02069; and at the Gallipagos, in lat. 0° 32', it is 39.01717 inches.

At Maraham, in 2° 32', it is 39 01197.

Hence Capt. Sabine calls the equator 39.0152 inches, and he calculates it to be at the Poles 39.21765; considering the ellipticity as 289.1; which La Place makes 306.75.

The highest latitude yet taken is 79° 50', and here it is 39.21464. At Greenland in 74° 32', 39.20328; at Hammerfest, 70° 40', 39.19512; and at Unst, in the Orkneys, in 60.45, it is 39.17145.—*Biot.*

At Paris, 48° 50', it is 39.12843; at London, 51° 31' 39.13908; and at Bordeaux, 44° 50' 39.11282; and Clermont, lat. 45° 47", 39.11313, giving 39.11813 for the mean latitude of 45°, which Sabine makes 39.11654.

A body therefore falls at the equator in a second of time 16.045258 feet; in the lat. of 45° per Sabine 16.08645; at London, 51° 31', in 16.0963; and at Paramatta, in 33° 48', 16.0703 feet; or per mean as above 16.08728.

The time of a complete oscillation in a cycloid is to the time a body would fall through the axis, as 3.1416 to 1. Then the fall of a body in a second is 3.1416^2, $\times$ half the length of a pendulum which vibrates seconds.

Chronometers, for nautical and astronomical purposes are now made with such precision, that they do not vary from true time more than two or three seconds in a year, or, in other

words, they are as perfect as any instrument by which observations can be made on the heavenly bodies. The 20,000*l.* offered by the Board of Longitude was given to Harrison.

The best watches and timepieces are made in London, but many at Liverpool and Coventry, also at Paris and Geneva. The first decided improvements were by Harrison, Arnold, and Earnshaw, each of whom received rewards from the Board. Brequet is the most skilful maker of nautical timepieces in France. There are from two to three hundred master watch and clock makers, employing three or four thousand hands in the parishes of Clerkenwell and St. Luke's, on the north side of London. A single watch passes through fifty different hands. The movements are chiefly made at Prescot, in Lancashire.

The extreme variation of two watches at Greenwich in 12 months, was from .9′ to 2.8′ in a temperature from 39° to 82°.

As the earth of 360 degrees of longitude turns in twenty-four hours, every hour of sixty minutes of time, is equal to fifteen degrees, and every degree equal to four minutes of time, every minute of time equal to $\frac{69.148}{4}$=17.287 miles at the equator, or 1525 feet per second. Degrees of longitude in different latitudes are as 1000: to the cosine of the latitude :: 69.148: length of degree. The cosine of five degrees is 996; of 10°, 985; of 15°, 966; of 20°, 940; of 25°, 906; of 30°, 866; of 40°, 766; of 45°, 707; of 50°, 643; of 51°, 31′, 622; of 60°, 500; of 70°, 342; of 80°, 174; and of 85°, 87; consequently, for 51.31, the latitude of London, 69.148 × 622 and ÷ by 1000, gives forty-three miles for a degree of longitude; and therefore 10⅔ is equal to a minute of time in this parallel.

In India a day is divided into 60 Ghurries, a Ghurry into 60 Puls, a Pul into 60 Prans, and a Pran into 10 Tas, in 2·5ths of a second.

The beats in an hour of a common second's clock are 3600, and 17280 a common watch; but second watches beat 18,000 times, or 5 per second.

A luminous point is produced a visual circle must go round seven times in a *second*.

Fewer than 30 vibrations in a *second* give no sound, and when the vibrations exceed 7520 in a second, the tones cease to be discriminated.

10 beats of a healthy pulse is equal to 9 seconds.

The sun is 7 days 16 hours 51 min. longer in the northern signs than in the southern.

The Mahomedans for 1830 begin June 22; 1831, June 12; 1832, May 31; 1833, May 21; 1834, May 10; 1835, April 29; and going back will be in 1895 on June 22 again; and in another sixty-five years, or 1960, begin the year on June 26th.

The Roman *lustra* were periods of 5 years; and the Greek olympiads periods of 4 years; and the first commenced in 776 B. C. The Metonick cycle was 19 years, intended to be equivalent to the Chaldean period. It was afterwards adopted as the golden number for Easter.

The Hegira, or Flight, took place July 16, 622, and is the Mahomedan Era. Their year is 12 lunar months, or 354 days, 8 hours, 48 minutes; and eleven days being lost, a year must be allowed every thirty-three, to reconcile their dates with ours.

The periodical month of the Turks and Arabs, or sidereal period of the Moon is 27 d. 7 h. 43 m. 48 sec. The synodical month, or return to the conjunction of the Sun is 29 d. 12 h. 44 m. 3 sec. 11 thirds.

The Jews began the year in March, and the months were Nisan, Zif, Sivan, Tammuz, Ab, Elul, Tisri, Bul, Cisleu, Tibeth, Shebat, Adar. The Sabbath, or seventh day is Saturday. The days and nights, from sunrise and sunset, were divided into twelve equal parts or hours, 1, 2, 3, &c. The night watches were three hours each, from sunset to sunrise. The months were lunar, or 30 and 29 days, and they introduced an extra month every two or three years. The day commences and ends at sunset.

The Jewish months were alternately 29 and 30 days, and their year of twelve lunations 354 days. Their year commences with the vernal equinox. To recover the four

days they intercalate a whole month after every two or three years, following their twelfth month, or Adar; and they call this extra month, ve-adar.

The Jewish day commences at six in the evening, or sunset, and continues till the same hour on the following evening.

Their civil year commences with the new moon near the vernal equinox, in the month called Tisri, of 30 days, corresponding with part of September and part of October.

The year 1829 was the Jewish year 5589, and ended Sept. 27, beginning Sept. 9, 1828.

The Mahometan year in 1829 was 1244, and ended July 2, beginning July 14.

The Persians give names to every day in the month, just as we give them to days of the week.

Saturday, the 7th day, is, by the Arabs, called *Sabt*. And Monday is called Jama, in all the eastern languages.

St. David's Day is March 1; St. Patrick's, March 17; St. George's, April 23; and St. Andrew's, Nov. 30; St. Deny's, Oct. 9.

Law proceedings preserve the Roman names of the days, as *Dies Solis*, *Lunæ*, *Martis*, *Mercurii*, *Jovis*, *Veneris*, and *Saturni*, derived from the Roman deities. But in ordinary use, the names are derived from the Saxon or Teutonick deities, the *Sun*, *Moon*, *Tuesco*, *Woden*, *Thor*, *Friga*, and *Saturn*.

The months, or lunar periods, are Roman; and September, October, November, and December were so called when the Roman year began in March.

April is so called from Aperit, the Spring.

As the orbits of the planets complete their seasons, their periods are taken to be their years; hence Mercury has nearly four years in ours; Venus 2ds; Mars is nearly 4 times as long; Jupiter 12 times; Saturn 30; Herschel 83; and more distant planets longer.

September, &c. were the 7th, &c. month of the year of Romulus.

From the spring to the summer solstice is 92d. 21h. 46'
From the summer to the autumnal equinox 93d. 13h. 39'
Northern signs.
From the autumnal to the winter solstice 89d. 16h. 47'
From the winter to the spring equinox 89d. 1h. 42
Southern signs.

GENERAL CHRONOLOGY.

The Dominical Letter is the Sunday letter of the year. A being always taken as January 1; and A, B, C, D, E, F, G, being the Dominicals. The 52 weeks give but 364 days, instead of 365; the Dominical letter, therefore, falls back *one* in every succeeding year, and two when 366 days, or in leap-year.

To find the *Golden Number*, or year of the *Lunar Cycle*, add one to the date and divide by 19, then the quotient is the number of cycles since Christ, and the remainder is the Golden Number.

The Cycle of the Sun is the 28 years before the days of the week return to the same days of the month. It is found by adding 9 to the date of the year, and dividing by 28; the quotient is the number of cycles, and the remainder is the number of the cycle wanted.

The Epact is the moon's age on the 1st of January. A year is 12 moons and 11 days. To determine this from 1800 to 1900, substract 1 from the Golden Number, found as above multiply by 11, and divide by 30, and the remainder is the moon's age for January 1.

To find the moon's age on any day, add the epact of the year, the epact of the month, and the day of the month together; if less than 29½, it is the moon's age, if more take 29½ from it. The epact of the month —0 for January, 2 for February, 1 for March, and 3, 4, &c. to 10 from April to December.

The time of the moon's southing is four-fifths of an hour later every day from the last new moon.

Easter is the first Sunday after the first full moon that occurs after the 21st of March: to find it add 6 to the

epact, and substract from 50, or if the sum is above 30, substract the remainder, and the difference is the day of the full moon, counting from after March 1; this is called the Easter limit, and Easter Sunday is the following Sunday. To fix the day of the month add 4 to the number of the dominical letter for the year and substract the sum from the Easter limit; then take this remainder from any multiple of 7 *greater* than the said remainder, and add the new remainder to the Easter limit, and the sum will be the day on which Easter Sunday falls in March, if less than 31, or in April if more than 31.

Epiphany, or 12th Day, celebrates the arrival of the wise men of the East.

Plough Monday is the end of Christmas.

The purification, or Candlemas celebrates the Jewish ceremony of the presentation of the Mother of Jesus.

Quadragesima Sunday is the first Sunday in Lent, Septuagesima is the Sunday before, and Quinquagesima precedes.

Ash Wednesday is the day which commences the forty days of Lent, when for four days the Popes sprinkle ashes.

Lady-Day the day of the Virgin's miraculous conception.

Palm Sunday celebrates Christ's entrance into Jerusalem.

Maunday Thursday when kings give alms, &c. to the poor.

Good Friday celebrates the crucifixion.

Easter Sunday celebrates the resurrection.

Ascension-day is forty days after Easter Sunday.

Whit-Sunday is forty-nine days after Easter Sunday, and also the day of Pentecost.

Trinity Sunday is the next after Whit-Sunday.

Lammas was an ancient quarter day, according with Whitsuntide, Martinmas, and Candlemas.

Michaelmas is a festival in honour of Michael and the Angels, recorded in the Revelations, and an angel much spoken of by Magicians.

All Saints is a day of prayer for saints who have no special days.

Advent Sunday is that which is nearest to St. Andrew's day.

Christmas celebrates the birth of Christ.

St. Stephen's and the Holy Innocents celebrate the massacre of the first martyr and the children by Herod.

These and other days, to the number of 300, besides Sundays, used to be celebrated by the Catholic Church, and being identified with the customs of the nation, have been preserved in the Angelical Church, though they are unknown and unnoticed by Dissenters. They fill up a column in the Almanacks, and they are so numerous in Spain, &c. as to render 300 days mass or holidays.

The Christian Æra was first adopted so late as the sixth century in the reign of Justinian; and hence the various difficulties of fixing it with precision: but it is generally considered as commencing in the year 4004 from the creation of Adam.

The *Solar* Cycle is a period of 28, when the days of the week and month again coincide.

The Cycle of *Indiction* was 15, and began 3 B. C.

The three cycles, 19, 28, and 15, multiplied, produce 7980 changes, after which period they return in the same order as before; and this is called the Julian Period. The year 1 of Christ is 4714 of this imaginary period.

The Epact is the eleven days which the solar year exceeds twelve lunations.

Jesus Christ is believed to have been born in the 43d year of Augustus, when Lentulus and Piso were consuls, in the 4th of the 194th Olympiad, and 4004 or 4005 from Adam.

Easter is a festival which the early Christians kept on the same day as the Jewish Passover, and others kept it on the first Sunday after the first full moon in the year; but it is now kept on the Sunday which follows the full moon after the 20th or 21st of March.

Chronologers adopt the following epochs:—

Creation	4004 B.C.
Deluge	2348
Calling of Abraham	1921
Argonautic Expedition	1225
Destruction of Troy	1184
1st Olympiad	776
Building of Rome	753
Nabonassar	747
The Seleucidæ	312
The battle of Actium	38
Dioclesian	284 A.C.

The chief epochs of Jewish chronology, according to received authorities, are as under:—

Creation of Adam	4004 B.C.
Deluge	2348
Death of Abraham	1821
Drowning of Pharaoh	1491
Death of Joshua	1443
Death of David	1015
Division of the kingdom between the ten tribes and two	975
Dispersion of the ten tribes	721
Captivity of the two	606
Return of the two from Babylon	536
Death of Judas Maccabeus	161
United to the Roman Empire	63

The Alphonsine Tables make the creation 6934 B.C.

The period from Adam to the Flood, is by the Hebrew version 1656 years; the Samaritan 1307; the Septuagint 2262; and Josephus 1556.

Chronologists distinguish dates and epochs by letters, as A. M. Anno Mundi; A. C. Anti Christi, or B. C. before Christ; and A. D. Anno Domini; or A. C. after Christ.

A. U. C., *ab urbe conditor*, from the building of Rome, 753 B. C. Greek epochs are marked *Olym.*, meaning the number of the Olympiad, which began 776, in periods of four years, beginning from our July, or their Hecatombeon. Hence the year 0 of Christ answers to the 4th year of the 194th Olympiad.

The Greek Church date the Creation 5508 years B. C., and begin the year in March.

The early fathers placed the year of Creation 5502 B C, and added the year A. D. to it. Others made it 5492, and the latter, 16 years less than the Greek Church, is still used by some Eastern Churches.

The modern Jews date the Creation 3760¼ B. C., and the year A. D. added gives the Jewish year; thus, 1830 A. D. is 5590 Jewish.

The Julian period is merely the arithmetical product of three cycles. It is in chronology like a balance wheel in mechanics. The multiplier is 7980, and our era begins in its 4713th year.

The early Christians, till the era of the birth of Christ was estimated, dated from the accession of Dioclesian in 284, called the era of Martyrs. The Coptic Christians still adopt it, beginning the year on the day of Dioclesian, Aug. 29, or in the month Thoth.

The era of the Seleucidæ, 311 B.C., of Alexander 323 B. C., and of the Battle of Actium 31 B. C., of the Cæsars 38 B. C., of Tyre 125, of Abraham 2016, and of Antioch 49, were also used by some early writers.

The Hindoo era of the Caliyug began 3101 B. C. or 750 years before the Deluge in 2348, and they count their months by the progress of the sun through the zodiac. The Samoat begins 57 B. C., and the Saca 77 A. C. All used.

The cycle of Jupiter is 60 years, or Sexagenary, and they are now in the 35th year of the 84th cycle, every year having a proper name.

The Chinese adopt also the Sexagenary cycle of 60 years, giving a name to each year. Seventy-five cycles have elapsed, and they are now in the 76th, the era commencing in 2700 B. C. or 350 before the Deluge. It was established by the Emperor *Hevang-te*, and is also adopted by the Japanese.

The Mexican era began in 1090, A. C., and their year was correctly astronomical.

The epoch of the Mosaic creation is fixed by the Samaritan Pentateuch at 4700 years B. C. The Septuagint makes it 5872. The authors of the Talmud make it 5344; and different chronologers, to the number of one hundred and twenty, make it vary from the Septuagint date to 3268. Dr. Hales fixes it at 5411; but the Catholic church adopt-

ed the even number 4000, and subsequently, a correction as to the birth of Christ adds four years therefore, it is now generally considered as 4004 years, which agrees with the modern Hebrew text. The modern Jews call this the year 5590, which carries the commencement to the year 3761, B. C.

The year 1830 corresponds to the year 6543 of the Julian period.

Since the first Olympiad 2606;

Since the foundation of Rome 2583;

Since the era of Nabonassar 2578.

The following are the most memorable events in Jewish and other histories, reckoned backward from the birth of Christ:

The Deluge	2348
Babylon built	2247
Kingdom of Egypt founded	2188
Birth of Abraham	1993
Semiramis flourished	1990
Argos founded	1856
Sesostris flourished	1722
Death of Joseph	1635
Moses born	1571
Athens founded	1556
Cadmus founded Thebes	1493
Moses died	1451
Tyre and Sidon rivals	1448
The first Olympic games	1443
The Argonautic Expedition	1263
The Pyramids built	1250
Troy taken	1209
Codrus, King of Athens	1069
David, King of Israel	1053
Solomon's Temple finished	1004
Homer and Hesiod flourished	907
Death of Lycurgus	873
The first Olympiad	776
Rome founded	753
Samaria taken	721
The Pentateuch founded by Hilkiah	625
Nebuchadnezzar flourished	600
Solon and Thales flourished	594
Jerusalem taken and destroyed	587
Cyrus became king of Persia	559
Babylon taken by Cyrus	538
The Tarquins expelled	509
The battle of Marathon	490
Aristides banished	484
The sea-fight at Salamis	480
Herodotus flourished	445
Phidias flourished	440
The Peloponnesian war	431
Death of Pericles and Anaxagoras	428
Death of Socrates	400
Rome taken by the Gauls	385
The Death of Plato	348
Alexander destroyed Thebes	335
Alexander built Alexandria	332
Alexander died at Babylon	324
Aristotle and Demosthenes died	322
Praxiteles died	288
The Alexandrian Library founded	283
The Death of Epicurus	270
The first Punic war	264
End of the first Punic war	242
Romans conquered all Italy	226
The Battle of Cannæ	216
The Death of Archimedes	212
Jerusalem taken by Antiochus	170
Persius defeated	167
Judas Maccabeus flourished	166
The last Punic war	149
Carthage destroyed	146
Death of Tiberius Gracchus	133
Athens taken by Sylla	86
Sylla perpetual Dictator	82
Syria conquered by Pompey	64
Cæsar landed in Britain	55
Gaul conquered	51
Cæsar made Dictator	49
Pompey killed	47
Cæsar killed	44
Cicero killed	43
Battle of Actium	31
Death of Horace	8
Birth of Christ	0

I have taken the year of the Flood after Usher and Blair, but the Septuagint makes it 3426; Josephus 3146; the Samaritan 2998; and the modern Jews 2104. Herodotus and the Greeks notice none of these Jewish periods, but they mention a deluge in Attica in the reign of Ogyges, in 1764, 500 years after the other; and various notices are taken of a deluge 250 years afterwards in Thessaly, when Deucalion fled to Athens.

There is also some uncertainty about the epoch of the birth of Christ, and whether he was crucified in the 15th, 16th, or 19th year of Tiberius. The early fathers assigned but one year to the period of his public preaching, others two, and Eusebius made it three and a half; and if so, that he lived till the 19th of Tiberius. The chronology was not inquired into till long after the events; and the Christian festivals appear to have been fixed astrologically. The feast of the Virgin Mary being fixed on the day the sun enters Aries; that of John the Baptist

on entering Cancer; that of Michael on entering Libra; and that of Jesus on entering Capricorn, being the four cardinal points. So they fixed the other saints' days on the day the sun entered the other signs; St. Paul on entering Aquarius; Matthew on entering Pisces; Mark on entering Taurus; Corpus Christi on entering Gemini; St. James on entering Leo; St. Bartholomew on entering Virgo; Simon and Jude on entering Scorpio. This, at least, is the opinion of Hewlett and others, and the days correspond, allowing for the precession of the equinoxes.

Death of Augustus	A. C. 14
Death of Ovid and Livy	17
Pilot, Governour of Judea	27
Sejanus put to death	31
Jesus Christ crucified	33
Death of Tiberius	37
Claudius succeeded Caligula	41
Claudius visited Britain	43
Nero succeeded Claudius	54
Boadicea defeated	61
Seneca and Lucan put to death	65
St. Peter and St. Paul put to death	67
Galba succeeded Nero	68
Otho succeeded Galba, and Vitellius Otho	69
Jerusalem taken and destroyed	70
Titus succeeded Vespasian	79
Pliny killed at Vesuvius	79
Domitian succeeded Titus	81
The Dacian war began	88
Death of Josephus	93
Nerva succeeded Domitian	96
Trajan succeeded Nerva	98
Death of Tacitus	99
St. Ignatius destroyed at Rome	108
The first Bishop of Rome	109
Trajan subdued Assyria	115
Jerusalem rebuilt, and the Temple dedicated to Jupiter	130
The Romans destroyed 580,000 Jews, and banished the rest from Judea	135
The Romans agreed to pay tribute to the Goths	222
The Temple of Diana at Ephesus destroyed	260
The Goths and Heruli defeated by Claudius II., and 300,000 killed	269
The 9th persecution of the Christians	272
Palmyra taken	273
Dioclesian divided the empire	292
Constantine tolerated the Christians	323
The Council of Nice	325
Constantinople made the capital of the Empire	329
The Mythological Temples demolished	331
Death of Constantine	337
Death of Eusebius	342
The Emperor Julian abjures Christianity	361
Theodosius Emperor of the East	379
His Death	395
Europe overrun by Alaric	401
Rome sacked by Alaric	410
The Romans left Britain	426
Genseric the Vandal overran Italy, and invaded Africa	439
Pope Leo the Great	440
Attila and the Huns overran Europe	447
The Saxons arrived in Britain	451
Rome taken by Genseric	455
Hengist murdered 300 British nobles	475
Rome taken by Odoacer, and he made King of Italy, which put an end to the Roman Empire 1229 years after the building of Rome	476
Clovis King of the Franks	481
Death of St. Patrick	491
The Bishop of Rome asserted his supremacy	494
Alaric defeated and killed by Clovis	507
Arthur King of Britain	515
The Christian era invented and introduced by Dionysius, a monk	516
Justinian made Emperor of the East	527
Totila the Goth took and plundered Rome	547
Retaken by Belisarius	549
And recovered by Totila	550
The Heptarchy begun in England	555
Death of Justinian and Belisarius	569
The Latin tongue ceased to be spoken	580
The flight of Mahomet from Mecca to Medina	622
Death of Mahomet	633
Jerusalem taken by Omar	636
The Saracens conquered Northern Africa	698
Spain conquered by the Saracens	713
The Christian religion propagated in Germany	719
Charles Martel defeated the Saracens	732

The Christian era first used in books 748
Bagdad built by Almanzor 762
Charlemagne king of France 772
——— subdued the Saxons 781
The Huns extirpated by Charlemagne 794
Charlemagne crowned at Rome 800
The Normans arrived in France 808
Death of Charlemagne 814
The Heptarchy united by Egbert 827
Rome besieged by the Saracens 846
Christianity preached in Denmark and Sweden 850
The Danes ravaged England 867
Alfred defeated the Danes 878
Death of Alfred 901
Rollo flourished in Normandy 912
Sueno King of Denmark 980
Sueno conquered England 1013
Canute King of England 1017
Macbeth murdered Duncan 1040
The Turks took Bagdad, and overturned the empire of the Caliphs 1055
The battle of Hastings, and Norman conquest 1066
Feudal law introduced 1070
Doomsday book finished 1086
First Crusade 1095
Jerusalem taken by the Crusaders 1099
William Rufus killed in the New Forest 1100
Death of Abelard 1143
The second Crusade 1147
The Bank of Venice established 1157
Becket killed at Canterbury 1171
Ireland conquered 1172
Jerusalem taken by Saladin 1187
Saladin defeated by Richard I. 1192
The fourth Crusade 1202
The Inquisition established 1204
King John excommunicated 1208
Magna Charta signed 1215
Russia conquered by the Tartars 1238
The fifth Crusade 1248
Wales conquered 1254
Bagdad taken by the Tartars, and the Saracen Empire terminated 1258
The first English House of Commons 1258
Massacre of the French in Sicily 1282
Wales united to England 1283
Death of Friar Bacon 1284
The Jews banished from England 1290
Death of Cimabue, the reviver of painting 1300
The King of France excommunicated 1301
The Popes removed to Avignon 1308
Battle of Bannockburn 1314
Battle of Cressy 1346
Battle of Poictiers 1356
The Popes returned to Rome 1377
A second Pope chosen at Avignon 1378
Death of Wicliffe 1385
France under a Papal interdict 1407
The Council of Constance deposed two Popes 1414
John Huss burnt 1415
Jerome of Prague, do. 1416
Joan of Arc defeated the English at Orleans 1428
Constantinople taken by the Turks 1453
Battle of Towton 1462
Battle of Barnet 1471
Battle of Tewkesbury 1471
Castile and Arragon united 1479
Battle of Bosworth 1485
The Moors expelled Spain 1491
Savanarola burnt at Rome 1498
Battle of Flodden 1513
Luther began to preach 1517
Mexico invaded and plundered 1521
Battle of Pavia 1525
Rome taken by the Germans 1527
Servetus burnt by the reformer Calvin 1531
The Pope's authority in England abolished 1532
645 monasteries and religious houses suppressed in England 1539
The Council of Trent from 1545 to 1563
Cardinal Beaton put to death 1546
Interest fixed at ten per cent. in England 1547
Eldest sons of Peers permitted to sit in the House of Commons 1550
Five Bishops burnt by Philip and Mary 1555
Charles the Vth resigns his Government 1557
Death of Calvin 1564
Rizzio murdered 1566
Murray murdered 1569
Massacre of St. Bartholomew 1572
Death of Knox 1572
Republick of Holland commenced 1579
Mary Queen of Scots put to death 1587
The Spanish Armada defeated 1588
The first newspaper in England 1588
Bank of England incorporated 1694
Edict of Nantes tolerating Protestants in France 1598

East-India Company established 1600
Union of England and Scotland 1603
Gunpowder Plot 1605
Spain acknowledged the independence of Holland 1609
Henry IV. of France assassinated 1610
Shakspeare died 1616
Vanini burnt at Toulouse 1619
Death of Cervantes 1620
Huguenot, or religious war in France begun 1621
Death of Lord Bacon 1626
Buckingham assassinated 1628
Nine members of the House of Commons imprisoned 1629
Bagdad taken by the Turks 1631
Battle of Lutzen 1632
Hampden's trial in the exchequer 1637
Lord Strafford beheaded 1641
Massacre in Ireland 1641
Battle of Edgehill 1642
Death of Galileo 1643
Archbishop Laud beheaded 1644
Death of Hampden 1644
The Tartars overrun China 1644
Battle of Marston Moor 1644
Battle of Naseby 1645
Charles I. delivered up by the Scots 1647
Peace of Westphalia 1648
Charles I. beheaded 1649
Battle of Dunbar 1650
Death of Des Cartes 1651
Battle of Worcester 1651
War of England and Holland 1652
The English fleet defeated 1653
Cromwell dissolved the Long Parliament, and made Protector 1653
Death of Gassendi 1656
Death of Harvey 1657
Death of Cromwell 1658
Charles II. restored 1660
Prussia independent 1663
Great plague in England 1665
Great fire of London 1666
Candia taken by the Turks 1669
Murder of the De Witts 1672
Death of Milton 1674
The Habeas Corpus Act passed 1678
Lord Russel and Algernon Sydney put to death 1683
Death of Colbert 1684
The edict of Nantes revoked 1685
Battle of Sedgmoor 1686
Seven Bishops sent to the Tower 1686
Revolution in England 1688
Battle of the Boyne 1690
The French Fleet defeated the English and Dutch 1691
Surrender of Limerick 1691
Battle of La Hogue 1692
Hanover made an Electorate 1692
The English funding system commenced 1694
Treaty of Ryswick 1697
Battle of Narva 1700
Death of James II. 1701
Gibraltar taken 1703
Battle of Blenheim 1704
Barcelona taken 1705
Battle of Ramilies 1706
Battle of Almanza 1707
Battle of Oudenarde 1708
Battle of Pultowa 1709
Battle of Malplaquet 1710
Treaty of Utrecht 1713
The interest of money in England fixed at five per cent. 1714
Louis XIV. died 1715
Death of Leibnitz 1716
Charles XII. killed 1718
The Mississippi bubble 1719
The South Sea bubble 1720
Death of Peter the Great 1725
Death of Newton 1727
Koulin Khan made king of Persia 1736
——— conquered the Mogul Empire 1739
Porto Bello taken 1740
Battle of Dettingen 1743
Anson's voyage completed 1744
Battle of Fontenoy 1745
Battle of Culloden 1746
Kouli Khan murdered 1747
Lord Lovat, &c. beheaded 1747
Peace of Aix-la-Chapelle 1748
Braddock defeated 1755
Battle of Colin 1757
Battle of Hockkerken 1758
Louisburgh taken 1759
Battle of Minden 1759
Quebec taken 1759
Havana taken 1762
Treaty of Fontainebleau 1763
Wilkes' first election for Middlesex 1768
Do. second and third 1769
The Shakspeare jubilee 1769
Peace with Hyder Ally 1770
Partition of Poland 1772
Commencement of the American War 1775
Declaration of American Independence 1776
Meeting of Deputies at London for Parlimentary Reform 1780
Recognition of American Independence 1782

Call of the States-general in France 1788
Taking of the Bastile 1789
French Republick proclaimed 1792
Louis XVI. guillotined 1793
French declaration of war against England and Holland 1793
Robespierre guillotined 1794
The Bank of England suspended its payments in cash 1797
Bonaparte made Consul 1799
Battle of Marengo 1800
Peace of Amiens 1802
War renewed between England and France 1803
Bonaparte crowned Emperour 1804
Battle of Austerlitz 1805
Battle of Trafalgar 1805
Battle of Jena 1806
Battle of Friedland 1807
Peace of Tilsit 1807
Napoleon seized Ferdinand at Bayonne 1808
Battle of Wagram 1809
Marriage of Napoleon with the Arch-Duchess Maria Louisa 1810
Moscow burnt, and the French armies destroyed by frost 1812
Battle of Vittoria 1813
Battle of Leipsic 1813
Paris surrendered to the Allies 1814
Treaty of Fontainebleau 1814
Treaty of Vienna 1814
Napoleon returned from Elba 1815
Battle of Waterloo (June 18) 1815
Napoleon surrenders to the Bellerophon 1815
Treaty of Ghent, between England and America 1819
Tragical assault of petitioners at Manchester 1819
The Republick of Columbia proclaimed 1819
Do. Peru, Chili, and Mexico 1820
Death of Napoleon 1820
Death of George III. 1820
Trial of Queen Caroline 1821
War of Russia and Turkey 1829
Catholick disabilities in England removed 1829

DISCOVERIES.

1345 The Canaries.
1418 Madeira.
1432 The Azores.
1486 Cape of Good Hope.
1492 America.
1673 Louisiana, by the French.
1686 Easter Island, by Roggewein.
1690 Kamtschatka, by the Russians.
1770 New South Wales, discovered by Cook.
1771 Sandwich Islands, by do.
1774 New Caledonia, by do.
1819 New South Shetland, by Williams.

The Icelanders discovered the Continent of America about 1000, and called it Winenland, from the vines in which it abounded.

The South Sea was first seen by Europeans in 1513 from Mexico.

Japan was discovered in 1542.

Cape Horn was discovered by Le Maire and Schouton in 1616.

The discoveries on the North-west Coast have extended from East to West to 149½ West, and from West to East to 156½, leaving 7 degrees in lat. 74 unexplored, or 140 miles. In Parry's Voyage to Melville's Island, the thermometer was 55° below Zero in lat 74½.

DATES connected with the progress of knowledge and improvements since the Christian era.

274 Silk brought from India.
373 the Bible in Gothic.
400 Bells mounted.
493 Silk-worms in Europe.
660 Organs used.
663 Glass in England.
800 The Aristotelian Philosophy introduced.
830 Oxford University.
991 The Arithmetical Digets.
1080 Doomsday Book.
1124 Musical notes.
1200 Mariner's Compass.
1220 Astronomy cultivated in England.
1239 Coals dug as fuel.
1299 Spectacles invented.
1302 Cambridge University.
1319 Dublin University.
1341 Petrarch crowned at Rome.
1360 Wickliffe flourished.
1436 Printing invented.
1454 University of Glasgow founded.
1464 Posts and Diligences established.
1470 The first Almanack.
1471 Printing in England.
1517 Luther began to publish.
1543 Copernican System published.
1549 Telescopes invented.
1602 Decimal Arithmetick.
1604 Satellites of Jupiter.
1614 Logarithms invented.
1619 Circulation of the Blood.
1623 Barometer invented.
1662 Royal Society established.

1682 Philadelphia founded.
1680 Air-pump discovered.
1710 Newcomen's Steam-Engine.
1716 Death of Leibnitz.
1720 Inoculation introduced.
1722 Electricity improved.
1726 Petersburgh Academy established.
1730 Farenheit's Thermometer.
1736 Gottingen University established.
1753 British Museum established.
1768 Steam Engines improved.
1771 Cook's First Voyage.
1773 Cotton Spinning Machinery.
1778 Linnæus died.
1784 Euler died.
1788 Galvanism discovered.
1797 Priestley died.
1798 Vaccination announced.
1781 The Planet Herschel discovered.

The Hindus have no civil chronology, but their epochs are astronomical and theological. They record fifty-five sovereigns of the sun before the Christian era, which Sir W. Jones extends through a period of 1600 or 2000 years. But the priests make nine incarnations of Vishnu at very distant periods of time; and the astronomers have observations several thousand years old, displaying a perfection of science, of instruments, and various knowledge, which indicates ages of preparation. Their astronomical cycles are, of course, mere abstract calculations, and their reference to a standard position in Aries fanciful; while the discovery of Herschel, four small planets, and seventeen moons, render their vast calpa futile.

The *beginning* of Moses is a sublime indefinite, and all the stages of the earth, from the granitick formation, the transition rocks, and all the secondary strata, may have occupied millions of years in progressing to their present state from the beginning of Moses. Observations of 500 or 1000 years would enable the Hindus to arrive at the mean periods on which their celestial chronology is founded.

The 50 past calpas, 6 manwanteras, 27 yugs, and the satya of the 28th, with the sandya at the beginning of the calpa, make a total of past time of 1970784000 years, in which Brahmin was 17064000 years in creating, after which the planetary motions commenced. A point gravely asserted.

The maya-yug of 4320000 years is divided into the satya yug of .4, the treta of .3, the dwaper of .2, and the cali-yug of .1

At the close of each manwantera, of 71 maha-yugs, there is, say they, a period equal to a satya-yug of universal deluge, of 1728000 saura-years. This, in principle, accords with my own theory, but the time is fanciful; though one sect of Brahmins assert a period of deluge equal to mine, and at the same intervals.

There are 57753.336 lunations in a maha-yug, and 1577917828 days from sunrise to sunrise; which gives 29 d. 12 h. 44′ 2″ 47‴ 36⁗ for a mean lunation, and 365 d. 15 h. 31′ 31″ 24‴ for the length of a year, and all other periods are equally minute. The moon's apogee and nodes have increased four revolutions in a yug since these tables were formed. The obliquity was then taken at 24°.

MATHEMATICKS AND PHYSICKS.

Signs express the relations of quantities: they are of different kinds, as, The sign of *addition*, $+$, called plus, as $a+b$, reads a plus b. The sign of *substraction*, $-$, called minus, as $a-b$, reads a minus b, or b substracted from a. The sign of *multiplication*, $\times$, as $a \times b$, signifies that a is multiplied by b. Multiplication is also expressed by a full-point (.), and by *into*, as $\overline{a+b} \,.\, \overline{c+d}$, or $\overline{a+b}$ into $\overline{c+d}$. The sign of *division*, $\div$, as $a \div b$ signifies that a is divided by b; or in the form of a fraction, as $\frac{a}{b}$. $::$ are the signs of *proportion*, as $a : b :: c : d$. signifies that a is to b as c is to d. The *radical* sign $\sqrt{}$, denotes the root of the quantity as $\sqrt{a}$ is the square root of a, or the cube, biquadrate, &c. as $\sqrt[3]{a}$, $\sqrt[4]{a}$, &c.: or by fractions, as $a^{\frac{1}{2}}$, $a^{\frac{1}{3}}$, $a^{\frac{1}{4}}$, $a^{\frac{1}{n}}$, for the square, cube, biquadrate, and nth or indeterminate root of a.

a^{-1}, a^{-2}, a^{-3}, &c. denote inverse powers of a, and are equal to $\frac{1}{a^1}$, $\frac{1}{a^2}$, $\frac{1}{a^3}$, &c.

The sign of *equality*, $=$ as $a + b = x$, or a added to b is equal to x.—— The sign of *difference*, $\propto$, as $a \propto x$, signifies either $a - x$ or $x - a$.

$\rceil$ is put between two quantities to express that the former is greater than the latter, as $a \rceil b$, as a more than b; $\lfloor$ signifies the reverse, as $a \lfloor b$, as a less than b.

A *Vinculum* is a line drawn over several quantities signifying that they are to be taken collectively, as $\overline{a - b + c} \times \overline{d - e}$ signifies that the quantity represented by $a - b + c$ is to be multiplied by $d - e$; so of the powers and the roots of quantities; thus, $\overline{a + b}|^2$ denotes the square of $a + b$ as one quantity, and $\overline{a + b}|$ the cube; $\therefore$ or $\because$ signifies *ergo*, or therefore.

In calculations lines or single dimensions can only be compared with lines; superfices or double dimensions with superfices; and cubes or treble dimensions with cubes. Quantity of matter in cubes is detected only by relative momenta as in the varied momenta of weight, the varied reaction of resistance, in the same medium, &c. There is no ratio between finites and infinites, all finites having the same indeterminate ratio to the mere creation of the mind called infinity; therefore all knowledge is strictly limited to the ratios of finites. All momentum is quantity of matter multiplied into velocity; and momentum or power is evidence of matter and velocity acting in the direction of the resulting momentum.

Fluxions were an invention of Newton, and at the same time and independently Leibnitz invented the differential calculus. It is thus in almost all new inventions knowledge advances to a certain point and then several make the next step at the same time. Newton's invention is however laid aside, and the differential calculus preferred by all modern mathematicians.

Duple ratio is that of 2 to 1. *Sub-duple* that of 1 to 2. And *duplicate* ratio is that of the square of one number to the square of another. *Sub-duplicate* is the ratio of the square roots.

If the square of the diameter of a circle be multiplied by .7854 the product is the area. If the diameter of a sphere be cubed and multiplied by .5236 the product is the solidity; and the square of the diameter multiplied by 3.14159 is the surface of a sphere.

The branch of mathematics called Conick sections arises from the varied curves which a cone produces when cut in different directions; cut obliquely it is an *ellipse*; cut parallel to one side it is a *parabola*; and and when not parallel, but from the side through the base, is called an *hyperbola*. The ancient mathematicians exhausted the investigation of these figures, and the moderns have been equally industrious. The longer axis of an ellipse is called the transverse axis; the distance of either focus from the centre of the transverse axis is called the eccentricity; the axis drawn through the centre at right angles to the other, is called the *conjugate* axis; any straight line passing through the centre is a *diameter*, and any chord to a *diameter* divided equally by it, is called an *ordinate*; the unequal parts of the diameter are called *abcissæ*. A third proportional to a diameter and its conjugate is the *parameter* and *latus rectum*. Conjugate diameters are parallel to each other's tangents. A line which joins either focus to the circumference is called the *radius vector*.

In the *parabola*, the abscissa is a third proportional to the parameter and semi-ordinate. In the *ellipsis*, the square of the semi-ordinate is equal to the rectangle of the parameter and abscissa, less a rectangle of the same abscissa, and a fourth proportional to the axis, parameter, and abscissa. In the *hyperbola* the squares of the semi-ordinates are to each other, as the rectangles of the abscissa and a line formed of the abscissa and transverse axis.

The radius of a circle is equal to an arc of 57.2957795 degrees.

The word digit, applied to the 10 figures, comes from digitus, a finger; computation being, in ancient times, performed by the 10 fingers.

To find the surface of a spherical zone multiply the product of the diameter, into the height by 3 14159. To find the solidity add the squares of half the two diameters to ⅓d of the square of the height; multiply

this sum by the height and product by 1.5708.

The surface of the segment of a sphere may be found by multiplying the diameter by the height, and this by 3.14159; and the solidity by multiplying the height by .5236; and the product by three times the diameter less twice the height; or to three times the square of half the diameter of the base add the square of the height, multiply the product by the height and this product by .5236.

To find the contents of a cask, add double the square of the bung diameter to the square of the head diameter, and multiply this sum by the length of the cask, then divide the product by 1077 for ale gallons of 282 cubick inches each, or by 882 for wine gallons of 231 cubick inches each.

Laguy carried the ratio of the diameter to the circle to 128 figures, 20 of which are as follows, 31,41592653 5897932384, &c.

Prime numbers are those which have no divisor; perfect numbers are those which are equal to the sum of all their divisors.

The prime or indivisible numbers under 100 are, 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89 and 97.

Pyramids are one-third of prisms of equal base and height. They are to each other as their bases and heights. One third of the area of the base by the height is the solidity. The surface is half the product of the length of the base by one of the sides.

The area of a trigon when each side is 1, is 0.433.

of a Pentagon·····1.72
of a Hexagon·····2.598
of a Heptagon···3.6339
of an Octagon···4.8284
of a Decagon····7.6942
of a Dodecagon··11.196

Square the side and multiply by these numbers.

To find the fall of a body in a second, multiply the square of 3.1416 by the length of the seconds pendulum, and divide by 2.

The dip of the horizon for various heights of the eye is as under, to be deducted.

6 feet····	2′ 20″
10 feet····	3′ 1″
20 feet····	4′ 16″
30 feet····	5′ 14″
40 feet····	6′ 2″
50 feet····	7′ 23″
100 feet····	9′ 33″

The refraction of the air for different altitudes is as under, to be deducted.

Horizontal 33′

1°	24′ 29″	20°	2′ 35″
2	··18 35	30	··1 38
3	··14 36	40	··1 8
4	··11 51	50	··0 48
5	·· 9 54	60	··0 33
10	·· 5 15	75	··0 15
15	·· 3 30	85	··0 5

The arithmetical mean is half the sum, and the geometrical mean is the square root of the product.

Quincunx is 1 at each of 4 corners, and 1 in the middle.

The time of falling through the chord of a circle is equal to the time of descent through the diameter; and through all arcs of a cycloid are equal.

The proportion of the area of a circle to its circumscribed square, is as 11 to 14.

$8\frac{9}{17}$ is the side of square equal to a circle whose diameter is 10.

Binary logarithms were invented by Euler to facilitate musical investigations, and 2 is their integer instead of 10 in common, and 1 in hyperbolick logarithms.

In inverse proportion more requires less and less more. It is expressed fractionally as $\frac{1}{a}$; a being in inverse proportion a,

On an inclined plane, the power gained is as the length of the plane to the length of the base. The velocity in descending to that falling perpendicularly is as the height to the length, and the force is the same. For a body acquires the same velocity as in falling perpendicularly through the height of the plane; and a body acquires the same velocity, in falling down any number of planes, or down a curve as perpendicularly from the extreme height.

The convexity of the earth interposes to prevent the sight of distant bodies: thus at 600 yards 1 inch would be concealed, or an object an

inch high could not be seen in a straight line; at 900 yards, 2 inches; at 1400 yards, 5 inches; at 1 mile, 8 inches; 3 miles, 6 feet; so that at that distance a man would be invisible; 4 miles, 10 feet; 5 miles, 16 feet; 6 miles, 24 feet; 10 miles, 66 feet; 12=95, 13=112, and 14 miles, 130 feet.

In all horizontal distances, $\frac{1}{13}$th. should be added to the distance for horizontal refraction, and Legendre says, $\frac{1}{14}$th. Making this allowance, and remembering that a mile curvates 8 inches, we may determine a distance by knowing the elevation, or an elevation by knowing the distance. By multiplying 8 inches by the square of the distance; thus, if it is 10 miles, 10 times 10 is 100, and 100 times 8 inches is 66 feet as stated; and if the top of a mountain is seen at 50 miles distant, it would be 2500 times 8 inches, equal to 1666 feet of elevation, to which adding $\frac{1}{14}$th for refraction it would make the hill about 1800 feet high, therefore 50 miles would be the extent of the prospect from the top.

The first writer who used algebraick signs, was Stifeiius, of Nuremberg, in 1544.

The science of probabilities has been extended in modern times by Laplace and other mathematicians, so as to be applicable to questions of all kinds, but it has for many years been applied to calculations of life annuities, and to chances of dice and cards.

It is a general rule that every probability may be expressed by a fraction, the numerator of which should be the number of chances for happening, and the denominator the sum of the number of chances by which it may happen and may fail. But the probability of its not happening is to be expressed by a numerator of the chances of failing, and a denominator consisting of the chances of failing and happening. The two fractions are of course always equal to one. The value of a chance is found by multiplying the fraction, expressing the probability by the stake. The probability of throwing a particular number with one die is therefore 1 for the numerator, 1 and 5 for the denominator or $\frac{1}{5}$th. Then the probability of throwing the same twice is $\frac{1}{6}$th of $\frac{1}{6}$th, or $\frac{1}{36}$th, or 3 times $\frac{1}{6}$th of 36, or $\frac{3}{216}$th.

If A and B game, and A wins in p cases, and B in q cases, and the stake be a. A's chance is $\frac{pa}{p+q}$ and B's chance $\frac{qa}{p+q}$ universally.

The probabilities of throwing required totals with two dice depends on the number of ways in which the totals can be made up by the dice. 2, 3, 11, or 12 can only be made up one way each, and therefore the chance is but $\frac{1}{36}$th. 4, 5, 9, 10 may be made up two ways, or $\frac{1}{18}$th. 6, 7, 8, three ways, or $\frac{1}{12}$th the chance of doublets is $\frac{1}{36}$th, the chance of particular doublets is $\frac{1}{216}$th.

The number of changes which any number of things, as bells, letters, cards, &c. can produce, is the product of all the figures multiplied together, thus: 1, 2, 3, 4, 5, 6, bells, produce 720 changes.

The chances against holding 7 trumps is 160 to 1; against 6, it is 26 to 1; against 5, 6 to 1; and against 4 nearly 2 to 1. It is 8 to 1, against holding any two particular cards.

The 26 letters of the alphabet make 403 quintillians of combinations; 20, make 2½ quadrillions; and 12 would make 479 millions.

The chance is equal in dealing cards that every hand will have seven trumps in two deals, or seven trumps between two parties, and also 4 court cards in every deal. This is so certain on an average of hands, that nothing can be more superstitious and absurd, than the prevailing notions about luck or ill-luck. The chance of having a particular card out of 13, is $\frac{13}{52}$ds, or 1 to 4, and the chance of holding any two cards is $\frac{1}{4}$th of $\frac{1}{4}$th, or $\frac{1}{16}$th. The chances of a game are generally inversely as the number got by each, or as the number to be got to complete the games.

There are 36 chances upon two dice. It is an even chance that you throw 8. It is 35 to 1 against throwing any particular doublets, and 6 to 1 against throwing any doublets. It

is 17 to 1 against throwing any 2 desired numbers. It is 4 to 9 against throwing a single number with either of the dice, so as to hit a blot or enter. Against hitting with the amount of 2 dice the chances against 7, 8 and 9, are 5 to 1; against 10, is 11 to 1; against 11, 17 to 1; and against sixes is 35 to 1.

The oldest work on algebra is that of Diophantus, who flourished at Alexandria in the 4th century. Its improvers were Vieta, Descartes, Newton, Euler, and La Grange.

The mechanical powers may be reduced to three, but they are usually expressed as six, the lever, the wheel and axle, the pulley, the inclined plane, the screw, and the wedge.

In a single moveable pulley the power gained is doubled. In a continued combination the power is twice the number of pullies, less 1.

In levers, the power is reciprocally as the lengths on each side the fulcrum or centre of motion.

The power gained in the wheel and axle is as the radius of the wheel to that of the axle.

The power gained by an inclined plane is as the length to the height.

The power of a wedge is generally as the length to the thickness at the back.

The power of the screw is as the circumference to the distance of the thread, or as 6.2832 to that distance.

Resistance is an affair of experiment, sometimes a third, and at other times less.

The momentum or force of a body is its matter multiplied by its velocity, and this is the basis of all mechanics and all philosophy. Velocity is as the space passed through in the same time, therefore matter and space are the source of all material power; and wherever power is present there is some matter in some motion.

The contrivances for conveying the power of a machine to the work are

Wheels and pinions on axles.
Conical wheels.
Rack work.
Belts, bands, and chains.
Cranks. single and double.
The universal joint.
The sun and planet wheel.
The ball and socket.

The lever of Lagoaroust, for producing a rectilineal from an alternating circular motion.

Reversing a motion is produced by merely crossing a belt, or making one wheel work into another.

Fly-wheels keep up a constant equal force, from which partial forces are derived, or unequal actions kept uniform.

The friction on under shot water wheels, is ⅘ths the actual force of the water, which, in falling 15 inches, acquires a velocity of 9 feet nearly in a minute, and then if 265lbs. of head water fall 15 inches, the whole is 3975 for the force, but by experiment it raises but 9375 lbs. 135 inches, or 1266, or ⅓th nearly. Then 1266 × by the velocity of the wheel is the whole force, according to Smeaton, independent of reactions of floats, &c. which gives 10 to 3, or 2-8 as the proportion of force and effect. In over shot wheels the power is greater.

An under shot wheel has the greatest force when its circumference moves with ⅓ths of the velocity of the stream, and the best velocity of an over shot wheel is 3 feet in a second, and depends on proportioning the buckets, the power of the water being as the heighth it falls through. In the under shot wheel the power is to the effect as 3 to 1, and in the over shot wheel double, or 3 to 2.

As every human being had two parents, these four, and these eight, in three generations, ancestors thus double in every generation of 33⅓ years, and eight-fold in every 100 years; so going back another 100 years, or to 1630, the ancestry of every living person would be 8 × 8, or 64: in 1530, it would be 8 × 64 or 512: in 1406, be 4096: in 1330, 32768: in 1230, 221344: in 1130, 2097152; and at the era of the conquest, the ancestry of every one of the English family was the whole population of England; while on the other hand, every one having children at that time was the direct progenitor of the whole of the living race. The race of the year 2530 will in like manner descend from 8 or 9

millions of the present race. In this way the average powers of humanity and of animals are kept up, and without mixture families deteriorate in faculties and become extinct. In one nation the people are all kindred in remote degrees, and had common ancestry.

On examining Zerah Colburn, the calculating boy, who in a minute or two could give the exact product of five or six figures by five or six, or extract the square or cube root of eight or ten figures, the following rules about the square root were elicited:—1. A square number cannot have an odd number of cyphers. 2. If the last figure is a 4, the last but one will be even. 3. If the last is a 5, the last but one is a two. 4. If the last is odd, the last but one is even. 5. If the last is even, except 4, the last but one is odd. The two last cannot be even, except two cyphers or two fours. More than the three last cannot be the same, unless cyphers or fours. George Bidder, another calculating boy, had invented similar sets of rules.

The log-line is divided into spaces of fifty feet, and the way measured by a half minute sand glass, which bears nearly the same proportion to an hour that fifty feet bears to a mile.

The friction of cylinders or wheels is as the pressure, and inversely as the diameter.—*Coulomb.*

Friction, in general, in machinery, is taken at a loss of one-fourth of the power exerted. It arises from the lateral transfer of the motion, and from the force of weight acting at right angles to the imparted motions, and in rubbing is as the surfaces, imparting and receiving motion.

The least friction is when polished iron moves on brass.—*Coulomb.*

The force of a man in turning a winch is taken at 116 lbs., or as much as would raise 256 lbs. 3281 feet in a day; his force in pumping is as 190, or equal to 419 lbs. in 3281 feet; in ringing 259, or 572 lbs. 3281 feet; and in rowing 273, or 608 lbs., 3281 feet.

Smeaton, a good authority, reckoned a horse equal to five men, and Bossuet seven men, and an ass to two men. A horse, says Desagulier, can draw 200 lbs. 2½ miles per hour, for eight hours per day, or 240 lbs six hours. Smeaton says that a horse loaded with 224 lbs. can travel twenty-five miles in seven or eight hours.

The force of a horse per Desagulier, is 44000 lbs. 1 foot per minute.
Per Smeaton, 22916 ditto.
Per Watt, 33000 ditto.

Then, as Mr. Watt, in a steam engine, considers one fourth lost by friction, he takes Desagulier's 44000 lbs. as the horse power in his steam engine.

230 gallons on an over shot water wheel, a 6.12 inch steam engine cylinder, 1 horse, 5 men's power, windmill sails 17.89 feet, are all equal to raise 1000 lbs. avoirdupois thirteen feet in a minute.

1584 gallons, a cylinder 14.2 inches, ten horses, fifty men, or 56.57 feet Dutch sails, are equal to raising 1000 lbs. 130 feet in a minute.—*Fenwick.*

One bushel of good coals raise from twenty-four to thirty-two millions of pounds one foot per minute. Four bushels of coals per hour, with a cylinder of 31½ inches, and 17½ strokes of seven feet per minute, is a force equal to forty horses constantly. A rotative double engine, with a cylinder 23¾ inches, making 21½ strokes of five feet per minute, is a twenty horse power; and a cylinder 17½, making 25 strokes of four feet is a ten horse power: the consumption of coals being proportional.—*Watt.*

The common velocity of overshot wheels is three feet per second.

A man or horse will perform his labour with the greatest advantage, when the resistance is $\frac{1}{5}$th of his natural strength, and when his velocity is equal to $\frac{1}{3}$ of his greatest velocity when not impeded. The force of a man at rest is about 70 lbs. and his velocity six feet when not impeded, therefore his force is exerted to the best advantage by a resistance equal to 31 lbs. and a velocity of 2 feet per second; so with a horse, his greatest pull is 420 lbs., equal to 20 cubick feet of steam per minute, and his rate 10 feet a second, therefore his labour is best performed at 187 lbs. and 3 feet 4 inches per second.

A horse will draw 200 lbs. for eight hours, at 2½ miles an hour; and the strength of five men is equal to one horse. According to work or position a horse can perform the work of seven men, or only of three men, but five is taken as the mean.

The resistance in the same fluid to the same body is as the square of the velocity, because the number of atoms encountered is as the superfices of the moving body. The particular resistance of different fluids is to be determined by experiment. A ball which, without the resistance of air, ought to rise twelve miles, at 2000 feet per second, will ascend but 2920 feet. Resistance too, overcomes velocity, so as to render the velocity of falling bodies uniform, after moving through 8½ feet of water and 260 feet of air.

Horse power in steam engines is calculated as the power which would raise 33,000 lbs. a foot high in a minute, or 90 lbs. at the rate of 4 miles an hour. Some experimentalists estimate it at ⅓ less, but the above is adopted by most theoretical writers.

The force necessary to move a wheel carriage on a level road, is about $\frac{1}{25}$th of the load, on a railway it is but the 150th. On a canal it is but the 600th.

Friction in drawing a body over a horizontal surface is equal to ⅓d or ⅓th, and another writer makes it 7 to 20. Friction of wheels or cylinders is as the weights divided by the diameters. In pulleys the friction is reduced one half by grease. The general allowance in machinery is ⅓d for friction.

In wheel-machinery, to determine the number of revolutions of the last-moved part for one of the first-moved part, divide the product of the cogs in the driving wheels by the product of the cogs in the driven wheels.

The strength of an inch square of different kinds of wood pulled lengthways, has been determined as under:

Beech . . .	6000 lbs.
Oak . . .	7000
Alder . . .	5000
Ash . . .	6000
Fir	4000
Birch . .	4200
Walnut . .	5000
Cedar . .	5000

A piece of fir two inches in diameter bears 7 tons; a rod of iron, ⅓d of an inch diameter, 3 tons; and a hempen rope of the same size will carry 1000 lbs. The rule is as follows: square the diameter in inches or parts, and multiply for fir by 9, for rope by 22, and for iron by 106, the product is cwts. A six thread rope bears 631 lbs., and a nine thread 1014 lbs., a twelve thread 1564 lbs., an eighteen, 2148 lbs.

The lateral strength of bodies is as the area of the section. A piece of freestone requires 205 lbs. to pull it asunder, and the lateral strength of fir is 18 times less than its strength lengthways. Emerson determines that a rod of good oak one inch square, will for a short time bear in the middle 330 lbs. and permanently 207 lbs. The proportions for different substances of equal lengths and sizes are, oak and yew as 11, ash and elm as 8½, walnut and red fir 7, beech, birch, alder and white fir 6, iron 107, brass 50, bone 22, lead 6½, freestone 1; in regard to loads placed in their middle.

In resisting compression the strength of timber in a rod 4 feet long and $\frac{7}{10}$ths of an inch square is for fir 226 lbs., beech 146 lbs., and oak 86 lbs. Oak will bear a pressure of 4000 lbs. per square inch, but other experiments make it 3000 lbs. Short specimens give to oak a comparative power of resisting pressure of 12. Willow and fir 9, and ash, elm, and poplar 7.

The cohesion of cast iron is about 30000 lbs. per square inch.

Coulomb establishes that the resistance of fluids is as the velocity and cohesion or viscidity of the particles. And that as the resistance of oil to that of water is as 17.5 to 1, this is the law of their cohesion.

Water presses on the bottoms of vessels as the base by the height, whatever be the form or bulk of the height. This is the hydrostatick paradox; and, by the application of it, slender pipes are made to produce an extraordinary pressure at the base, for it is always as the base by the height.

The smallest quantity of water balances any quantity however great, on the principle of finding its

level; hence, if a long pipe be inserted in a butt of water, however small its bore, it will burst the butt as though it had been blown up with gunpowder. Bramah's press is made on this principle, and a column of water ½ an inch diameter, acting on a square foot of water, produces 576 tons pressure, or upon a yard in diameter, of 41472 tons, and made to act so as to bear upon any substance. The weight of water depends on its height and not on its quantity, and this is called the hydrostatick paradox.

The quantity of water discharged through different apertures, with different heights of the fluid, is as the areas of the apertures and the square roots of the heights; but one-third more will be discharged through a pipe than through the aperture.

The centres of pressure of a fluid and of percussion, are ⅔ds the height.

In levelling it is usual to allow the 10th of an inch in every 200 yards, or 8 inches in a mile; 6 feet in 3 miles; 10½ feet in 4 miles; 15¾ in 5; 24 in 6; 66 in 10; 100 in 12½; and 130 feet in 14 miles for the sphericity of the earth.

Projectiles independently of resistance, describe parabolick curves.

In a Circle, calling D the diameter, C the circumference, A the area, and P 3.14159.

$$D = \frac{C}{P} \text{ or } \frac{4A}{C}, \text{ or } \sqrt[2]{\frac{A}{P}}$$

$$C = P\,D \text{ or } \frac{4A}{D}, \text{ or } \sqrt[2]{P\,A}.$$

$$A = \frac{P\,D^2}{4} \text{ or } \frac{C^2}{4P}, \text{ or } \frac{D\,C}{4}$$

$$P = \frac{C}{D} \text{ or } \frac{4A}{D^2}, \text{ or } \frac{C^2}{4A}$$

The following are the varied relations of forces: b the body, f the force, m the momentum, v the velocity, s the space, t the time. Then severally—

$$m \text{ as } = \frac{m}{v}, \text{ as } \frac{f}{v}, \text{ as, } \frac{m\,t}{s}, \text{ as } \frac{f\,t}{s}$$

$$f \text{ as } m, \text{ as } b\,v, \text{ as } \frac{b\,s}{t}$$

$$m \text{ as } f, \text{ as } b\,v, \text{ as } \frac{b\,s}{t}$$

$$v \text{ as } \frac{m}{b}, \text{ as } \frac{s}{t}, \text{ as } \frac{f}{b}$$

$$s \text{ as } t\,v, \text{ as } \frac{t\,m}{b}, \text{ as } \frac{t\,f}{b}$$

$$t \text{ as } \frac{s}{v}, \text{ as } \frac{s\,b}{m}, \text{ as } \frac{s\,b}{f}$$

The *centre of gravity*, or of percussion, putting a for a line, joining the vertex, and the middle of the base is, in different bodies, as under; taken from the vertex:

A plain triangle, ⅔ a.
A right cone, ¾ a

In a sector, as arch to chord, so is ⅔ radius to the distance from centre.

In a sphere, segment of a sphere, spheroid, or conoid, the altitude being x, and the whole axis a.

The sphere, or spheriod is $\frac{4a - 3x}{6a - 4x}$.

Hemisphere, or spheroid, ⅜ x.
Parabolick conoid . . ⅔ x.

Hyperbolick conoid . $\frac{4a + 3x}{6a + 3x}$.

The centre of gravity and percussion of any number of bodies, or masses, in a right line, is found by multiplying each body by its distance from some fixed point in the line, and dividing the sum of the products by the sum of the bodies, then the quotient is the distance from the point.

Or, if the bodies are not in one plane, a common plane must be assumed; and then the sum of the products of the bodies into their distances, divided by the bodies, is the distance of the common centre from the plane.

The *centre of oscillation* of a right-lined rod, is two-thirds of its length from the point of suspension.

In small arcs, the vibrations of equal pendulums are performed in the same time. The times are as the square roots of the lengths. The lengths are as the squares of the number of vibrations in the same

time. An elastick pendulum, vibrating between semi-cycloidal cheeks, performs all its arcs in equal time. Compensation, or gridiron pendulums, are formed of steel and brass alternately, so as not to vary in length by temperature.

The distance of *the centre of gyration* from the axis of rotation is as follows:—

A right line in length $\times \sqrt{\frac{1}{3}}$.

Circle, or cylinder, about axis—Radius $\times \sqrt{\frac{1}{2}}$.

Circle about diameter—Radius $\times \sqrt{\frac{1}{4}}$.

Plane of a circle, about diameter $\frac{1}{2}$ Radius.

Surface of a sphere about diameter—Radius $\times \sqrt{\frac{2}{3}}$.

Solid globe, Radius $\times \sqrt{\frac{2}{5}}$.

Cone, Radius $\times \sqrt{\frac{3}{10}}$.

The equation of the parabola is $yy=p^x$; and, therefore, the squares of the ordinates are to each other as the abscess.

The equation of the hyperbola is $yy=\frac{bb}{aa}(tx+x^2.)$

The equation of the ellipse is $yy=\frac{cc}{tt}(tx-x^2.)$

The equation of the circle is $yy=dx-x^2$.

These four are curves of the first order, comprised in the general equation $o=a+bx+cy+dx^2+exy+fy^2$.

Curves of the second order have, for their general equation, $o=$ as above; adding $+gx^3+hx^2y+kxy^2+ly^3$. And those of the third order, superadding $mx^4+nx^3y+px^2y^2+qxy^3+ry^4$.—$x$ and y being rectangular co-ordinates.

A *catenarian* curve is that formed by a chain, or rope, suspended at both ends. A *cycloid* is the curve formed by a point in a wheel, or body on the earth, which revolves and goes forward at the same time, and that in which all bodies fall. A parabola is the curve formed by water from a pump, or by a stone from a sling.

The head of a fish is a conoid, or the solid form of least resistance.

The cycloid is the curve line of swiftest descent, and is precisely the curve which the double motion of the earth generates in all falling bodies.

The hexagonal cells of bees present the greatest space with the least labour. The male cells are invariably 5-18ths of an inch, and female ones 13-60ths, always and every where.

A proportion, or ratio of two numbers, is greater or smaller as the quotient of their division is more or less. Thus 6 is to 2 in greater proportion than 6 to 3, because $\frac{6}{2}$ gives more than $\frac{6}{3}$. Hence $\frac{6}{2}$ or $\frac{a}{b}$, is the same as 6 : 2, or $a:b$.

If $a:b::c:d$.

Then $a:c::b:d$.

And $ad=cb$, or $\frac{a}{b}=\frac{c}{d}$

And $a+b:b::c+d:d$

And $a-b:b::c-d:d$

If b equal c

Or $a:b::b:d$,

Then b is a *mean proportional* to a and d.

It is also a *third proportional* to a and ad.

And it has to c, a *duplicate ratio* of a to d.

Then also $ad=b^2$; and b is the square root of ad.

When a is to b as b to c, and c to d, and d to e, then a is a *triplicate ratio* to d, the third term; and a *quadruplicate* to e, the fourth term.

The sum of an arithmetical series is found by adding the first and last terms, and multiplying by half the number of terms.

Any term is the first term added to the additional number of common differences. If the first term is 3, and the common difference is 5, then the 12th term is $11\times5+3=58$.

When the first and last are given, any intermediate terms are found by substracting the two terms, and dividing by one more than the number of terms sought for the common difference. Thus if we want 6 terms between 5 and 40—then $40-6=\frac{35}{6+1}=5$; and 5, 10, 15, 20, 25, 30, 35; 40 is the series.

Every geometrical series being the continued multiplication by a fixed difference, the terms are, r being the difference a, ar, ar^2, ar^3, &c. to ar^n for n terms. The last term, therefore, is ar^{n-1}, because the first involves no power of r.

The sum of an ascending series is found by multiplying the last term by the common ratio—substracting the first term and dividing the difference by the ratio less 1.

The sum of a descending series is found by deducting the power of the ratio raised to the number of terms from 1, and dividing the difference by 1 less the ratio, and multiply this quotient by the first term.

And the sum of a descending *infinite* series is found by dividing the first term by 1 less the common ratio.

Logarithms, so useful in philosophy, are the arithmetical series in contrast with a parallel geometrical series, by which the multiplication of any two terms of one series corresponds with additions of the other. The Logarithms for PRIME Numbers, under 100, are as under, and others are formed from these by mere multiplications and additions:—

2— .301030	43—1.633469
3— .477121	47—1.672098
5— .698970	53—1.724276
7— .845098	59—1.770852
11—1.041393	61—1.785330
13—1.113943	67—1.826075
17—1.230449	71—1.851258
19—1.278754	73—1.863323
23—1.361729	79—1.897627
29—1.462398	83—1.919078
31—1.491362	87—1.939390
37—1.568202	97—1.986772
41—1.612784	

The Index is always one less than the number of digits in the whole numbers.

As examples of the use of the above, all the powers of each number are found by multiplying by 2, 3, 4, &c. Thus the Log. of 4 is twice that of 2; of 8 is thrice; of 16 is 4 times; and so on. And the Log. of 9 is twice that of 3, of 27 is three times, &c. So the multiplies of any two of the figures have the sum of their Logs. for their Log. Thus 2×7=14, and the Logs. of 2 and 7 added, are the Log. of 14. This short table will, therefore, produce any desired Logarithm of any number.

Log. of the arc of a quadrant 1.57079=.196118.

Of the chord=.150515.

Of the circle, 6.283=.798180.

Of earth's rotation per second at the equator, 1525.46=3.183401.

Of earth's velocity per second, 97793 feet=4.990307.

Of distance from sun, 93.726[illegible] miles=7.968605.

Parallax, 8".7726=.943129.

Of days in a year=2.562592.

Of sec. in a day=4.935326.

Of moon's fall in her orbit per minute, 128814 feet=5.109963 (not 16 feet!)

The following is a brief view of some modern principles of physicks, published by the editor:

All phenomena are results of matter in motion, and motions are transferred *ad infinitum;* transfer being action, and reception re-action.

Space is occupied by atoms and masses transferring power to one another, so as to be a plenum of power, in bodies or atoms in regular motion.

Wherever there is power there is matter in motion, and wherever there is matter in motion there is power, directly as their multiple.

Vis inertia is the effect of contrary or oblique motions, matter deriving all its power from motion.

Powers of attraction, repulsion, universal gravitation, projectile force, caloric, chymistry, sympathy, fluids sui generis, &c. &c. are inventions to conceal ignorance, being universally resolvable into some matter or matters in some motion or motions, the detection of which is knowledge.

Qualities of body and matter are mere variations of power or form, and always measured by relative material results of matter on matter.

Definite sizes and definite results of all kinds, are consequences of actions and reactions, arriving at limits by a law of simultaneous series, increasing and decreasing; hence, whatever is is fit, and what is not fit is not; and all actual and continued existence is, for the time, in general harmony.

The following new and original determinations, in addition to others under the heads ASTRONOMY and PHILOSOPHY, were made by Sir R. Phillips in 1831. Results only are given, and details are avoided in a work of this miscellaneous character:—

Bodies deflected at right angles to a system in progressive motion, rise with a force directly as the height attained, and inversely as the progression, and they return contrarywise. If the deflection is in the

quadrant of a sphere, the deflecting and returning force is inversely as the quadrant, and directly as the progression.

If the quadrant is part of a rotating sphere, the rotating periphery is the base of a sector, whose apex is the centre of the circle, and whose equal sides are the radii. But the areas of circles are $\frac{C \times D}{4}$, and the superficies of a sphere are $C \times D$; hence, in comparing the rotative force of any periphery with that of the whole sphere, or in using it as part of the whole, the periphery moved through must be multiplied by 4. But if the sphere is not true, as in the earth, then by its proportion to a true sphere, and for our oblate spheroid, the multiplier is 3.98406.

But as the peripheries are the bases of areas described in different times, so, in comparing their forces for different times, their squares must be compared, or as the motions are multiples of the times, the squares of the times may be adopted. Then as central force or falling is for a second $\frac{O}{4\,R}$, for other times it is as $4\,R^2$ or T^2. This ratio of areas described by the peripheries, is therefore the true cause of the laws of acceleration traced by Galileo, and not the motion added to motion as has been plausibly alleged. Taking $\frac{O}{4\,R}$, for the fall for any time, or $\frac{O^2}{4\,R^2}$ for the square of the fall, the fall for other times is as R^2 is to the fall for that time, so is R^2 for another time to the fall for that time. Thus, if 1525 feet in 1 second give 16.086 feet of fall, 3050^2 give 64.34 feet of fall, or $\frac{1525^2}{2^2}$, for half a second give 4.02125 feet of fall. But the square of the times 1, 2, ½, &c. is equivalent to R^2, so we may substitute these for R^2, though the square of the periphery in the time, or the motion of areas, is the cause of the phenomenon.

The earth turns on its axis because it is deflected from a right line in one tangent to another, whose angles, in 24 hours, vary 59.136; the sine of which is 172 to the whole force, whose sine 10000 carries it, in 24 hours, through a distance equal to 64.33 circumferences. Then as 10000 : 64.33 :: 10172 to 65.44 one circumference more, owing to the deflective force 172. And this force acts on the outer hemisphere because a body moves only in the direction in which it is impelled, and an extra force on one hemisphere would produce rotation. Thus all planets and the sun itself rotate, and rotation is evidence of falling from one tangent to another. In the moon, the tides of the earth are the compensating force. The inclination demands an increase as 1.077 to 1., and reduces 65.44 to 65.35. In a quadrant = 5876 circumferences, the 64.33d is 91.31 extra rotations.

The vibrations of a pendulum are diminutive representations of the earth's motions, and the length of a pendulum for a second is directly as O^2, and inversely as $4^2 \times 6.283^2$. As R or 4 varies from the mean of a true sphere at the place, the pendulum is longer or shorter. For other times, it is governed by the ratio of R^2 and O^2 in a second to R^2 and O^2 in the other time. The length of the pendulum, determined by observation, enables us therefore to determine the exact values of O, R, or 4, the figure of the earth, any two being given; for the areas described by the pendulum exactly mimick the areas described by a radius of the earth by its rotation.

As the oblate figure of the earth depends on the variation of 4; and as in the equation $\frac{O^2}{4\,R^2 \times 6.283^2} = P$, we have $\frac{O^2 \times P}{R^2 \times 6.283^2} = 4$, more or less; so may we find the ratios of the two diameters by comparing it with a true circle. It is as 4 to 3.98406. The *cause* is the unequal force of the outer hemisphere, which lengthens the cosines, for the orbit in that case would not be the exact centre of the force of both hemispheres, and the poles would be flattened about 16 miles by that small difference in the equatorial force.

The eccentricity of orbits, and the advance of the line of apsides, arise

from the extra rotation of the earth, or any planet, while performing its orbit. Then the orbit motion, during a rotation of the earth, is 1,600,290 miles; but to readjust the orbit without enlargement, the whole quantity is given to the radius, first *positively*, and then it is abstracted *negatively*, by which the 1,600,290 miles in the orbit are neutralized, and the orbit affected only by an advance of the apsides equal to the substantive circumference of the earth in the ecliptick. The positive and negative results are effected by the alternate tangental action of the outer hemisphere, in passing from the perihelion to the aphelion, to the limit of the forces; and by the chordal action of the inner hemisphere in passing from the aphelion to the perihelion. But for this truly sublime economy, the extra rotation would enlarge the orbits in every revolution by 1,600,290 miles. The true eccentricity on 93 millions distance is 1,558,870 miles, or as 1 to 0.01685; and if the advance of the apsides, &c. is added in measure, it would be exactly equal to the extra day's motion. Of course, every increment of an orbit is part of a series of concentrick circles, of which the sun is the constant centre. The egg-form is a mere picture or hieroglyphick history of the orbit. If planets were points, they would perform exact circles; but definite bulks give two degrees of force to their inner and outer hemispheres, whose motions running into each other alternately prevail, and hence the variation in orbit and centre as described.

Kepler's law should be $T^2 : t^2 :: D^{3.1416} : d^{3.1416}$. It has not hitherto been understood; but it arises from the Times being circles, which are *involved* with forces; and then the force, or power, being first extracted, the root is the circle in the usual relations of circles to the radii. The power of the force in a quadrant is 1.5708, and the Time is the circle $^{1.5708}$; that is $T = C^{1.5708}$, therefore $T^{\frac{1}{1.5708}} = C$. The true ratio therefore is $T^{\frac{1}{1.5708}} : t^{\frac{1}{1.5708}} :: D : d$. But to give an expression like Kepler's, since $\frac{1}{1.5708} = \frac{2}{3.1416}$, and the denominator of the coefficient may be carried to the last terms without changing the proportion, T^2 is to t^2 as $D^{3.1416}$ to $d^{3.1416}$. The roots and powers are, of course, attained by dividing or multiplying the logarithms. Mercury, by this corrected ratio, comes out 37,593,000 miles; Venus, 68,254,630; and the other planets slightly more than usual.

The two forces which move the planets are the deflective force from the line of the sun's motion, produced by the sun's rotation on his axis and around the centre of momentum of the system which carry or urge the medium of space into circles, and these act tangent-wise on the planets as 1.2114; and the returning force by which they follow the sun in the whole moving system as 1—between the two performing a resultant motion of 1.5708 in a quadrant, and a return to the line in the next quadrant.

Since neither the sun nor any matter has power without motion, so in the sun's great power we have evidence of great progressive motion. Then the rotation of 6619 feet per second, demands a velocity of 26,476 feet, to render the centripetal merely equal to the centrifugal force. Again, rotation is itself evidence of falling from a tangent into an orbit. Herschel, by observation, thought the sun somehow moved towards Hercules, with the velocity of the earth, or 100,000 feet per second. It is therefore now inferred, that the sun actually describes a great orbit round some undiscriminated centre; and Sir R. Phillips analogically has estimated the size of this orbit on three degrees of central force. With equal centripetal and centrifugal at 162,865 millions; with 4.02 feet of fall per second at 654,722 millions; or, with 16.085 of fall at 2,619,750 millions; performed in each case in exactly 25,868 years, the period of the precession of the equinoxes, which he considers as the true period of the solar orbit. Hence the changes of 50″.1 per annum in the phenomena of the earth and stars, or of a degree in 72 years; and hence the whole of the stars go apparently round in 25,868 years. Of course, the planets as to the sun are therefore like satellites.

The three approximating quantities, the apsides' progression, the earth's circumference, and the precession, have been connected at col. 620; but the theory of a solar orbit rendering the precession its measure, the apsides' progression alone appears to arise from the acceleration of the earth's extra rotation. The period is 20,910 years, and the annual angle 61".916, equal to 27,925 miles in the earth's orbit. Then 24,894 equatorial measure of the earth would be, in the ecliptick, 26,-812; and adding increase on increase a 47th for the moon, and effects of variable distance, the 26,-812 would become 27,925. At the same time, this is a period of modern observation, and may be subject to variations, owing to the solar orbit, while the precession, or solar orbit of 50".1, was well known to the ancient Hindoos; and, as now appears, arises from the fixity of the axis from terrestrial structure, while the stars pass the nodes, or the nodes appear to fall back, owing to the earth's progression along with the sun in the grand solar orbit.

Another means of determining the sun's distances, besides those described in articles ASTRONOMY AND PHILOSOPHY, is to divide the orbit motion found by the fall in a second, by 1.57079, which gives the proportion of the radius, and then multiplying by the seconds, in which a quadrant is performed, it gives 93,-026,240 as the mean distance.

Tables of Decimals:—

1*s.* is .05 of one pound.
1*d.* is .0041666 of one pound.
1 farthing is .0010416 of a pound.
1 inch is .08333 of a foot.
1 lb. is .008928 of a cwt.
1 oz. is .000558 of a cwt.
1 yard is .000568 of a mile.
1 inch is .0000158 of a mile.
1 day is .002739 of a year.
1 minute is .000694 of a day.
1 dwt. is .004166 of a lb. troy.
1 grain is .000173 of a lb. troy.

Decimals of Fractions.

$\frac{1}{2} = .5$	$\frac{1}{5} = .2$
$\frac{1}{4} = .25$	$\frac{2}{5} = .4$
$\frac{3}{4} = .75$	$\frac{1}{7} = .142857$ &c
$\frac{1}{8} = .125$	$\frac{1}{9} = .1111$ &c.
$\frac{3}{8} = .375$	$\frac{1}{11} = .090909$ &c.
$\frac{5}{8} = .625$	$\frac{1}{12} = .08333$ &c.
$\frac{7}{8} = .875$	$\frac{1}{16} = .0625$
$\frac{1}{3} = 333$ &c.	$\frac{1}{20} = .05$
$\frac{2}{3} = .666$ &c.	$\frac{1}{24} = .041666$ &c.

Tables of sines and tangents, and of natural sines and tangents, are not always accessible; the following proportions between the sides of triangles whose hypothenuse is 1000 for every two degrees, may therefore be useful.

Angle Degrees.	Sine or Perp.	Cos. or Base.
1	17	999
3	52	998
5	87	996
7	121	992
9	156	988
11	191	982
13	225	974
15	259	966
17	292	956
19	326	946
21	358	934
23	391	920
25	423	906
27	434	891
29	485	875
31	515	857
33	545	839
35	574	819
37	602	799
39	629	777
41	656	754
43	682	731
45	707	707

For the next 45 degrees they are to be taken conversely, or base and cos. for perpendicular and sine. Intermediate degrees, or parts of degrees, may be found, without material errour, by the mean proportional: for example, 55 degrees, ten more than 45, is equal to ten less, or 35 degrees, the base being taken as the perpendicular; and if 36 degrees were wanted, 574 added to 602 is 1176, the half of which is 588, which is the perpendicular for 36 degrees, or the base for 54 degrees, and so the half of 36 and 35 would be $35\frac{1}{2}°$ and $54\frac{1}{2}°$.

A pump 10 feet above a well, with 7 inches bore, will discharge 70 gallons a minute; and at 30 feet and 4 inches, 23 gallons.

In the Roman notation, IↃ or D, stood for 500; and C after them, for as many hundreds as C's; CIↃ, or M, was 1000, with C's for odd hundreds. M, with a dash over it, was one

million; X̄, with a dash over it, 10,000. The ↄ is tenfold the number to which it is added.

The length of strings and vibrations in a second of time, of the eight notes and four semitones of an octave, are—

	Length.	Vibrations.
C	500	480
B	530	453
B flat	561	428
A	595	404
G sharp	630	381
G	667	360
F sharp	707	339
F	749	320
E	794	302
E flat	841	285
D	891	269
C sharp	944	254

C again being 1 and 240

Some writers assign 30 as the lowest, and 14000 as the highest number of distinguishable vibrations in a second, in producing tones on musical strings.

Rate of Interest, in even shillings, at different prices of 3 per cent. consols:

91¼ to 93	3*l.* 5*s.*
90¼ to 91¼	3*l.* 6*s.*
87⅞ to 90¼	3*l.* 7*s.*
87¼ to 88⅞	3*l.* 8*s*
86⅞ to 87¼	3*l.* 9*s.*
85¼ to 86⅞	3*l.* 10*s.*
84 to 85¼	3*l.* 11*s.*
82¾ to 84	3*l.* 12*s.*
81¾ to 82¾	3*l.* 13*s.*
80¼ to 81¾	3*l.* 14*s.*
79¼ to 80¼	3*l.* 15*s.*
78¼ to 79¼	3*l.* 16*s.*
77¼ to 78¼	3*l.* 17*s.*
76¼ to 77¼	3*l.* 18*s.*
75¼ to 76¼	3*l.* 19*s.*
74¼ to 75¼	4*l.* 0*s.*
73¼ to 74¼	4*l.* 1*s.*

Higher or lower rates may be estimated from the above, by adding or substracting.

When the stocks yield 4 per cent., government sell an annuity of 20*l.*, for 10 years, at 163*l.* 10*s.* 3*d.*; for 20 years, 273*l.* 11*s.* 1*d.*; 30 years, for 347*l.* 12*s.* 2*d.*; 40 years, for 397*l.* 8*s.* 11*d.*; and, 50 years, for 430*l.* 19*s.* 8*d.*; or for life, at 15, for 362*l.* 14*s.* 8*d.* males; or 383*l.* 11*s.* females; at 30, for 331*l.* 19*s.* 7*d.* males; and 351*l.* 14*s.* 6*d.* females; at 60, for 198*l.* 14*s.* 4*d.* and 229*l.* 6*s.* 11*d.*; and in proportion to price of stocks as above.

Half the length of a second's pendulum multiplied by 9.87 is the fall of a body.

Two pendulums at Paris made 85922.06 and 85933.83 vibrations in a mean solar day. And the same in London gave 85933.29 and 85945.85; 12″ being the increase in London.

A leaden ball fell from the cupola of St. Paul's to the pavement, 272 feet, in 4.25″, which squared, is 18.06; then $\frac{272}{18.06} = 15$ feet per second. But 17 feet being allowed for resistance, it is taken as $\frac{289}{18.06} = 16$ feet per second in air; and as 16.08 is vacuo. A hollow glass globe was 6″ in falling the same height.

The seconds pendulum, in London, is 39.12 inches; at the equator, 39.027; and 45°, is 39.111; and at 75°, is 39.187. The same principle makes it, at the poles, 39.197.

Eclipses return in the very same order every 18 years and 11 days, supposing four leap-years in the interval; and, if five, then 10 days. Other cycles of motion, however, vary the phenomena or measure. The moon's shadow is less than 170 miles broad; but the eclipse is visible, in degree, for 2000 miles: 500 miles diameter gives 11 digits, and then a digit less every 250 miles.

The Eclipses of the sun for this century, visible in England, are as under:

July 17, 1833, at 7 in the morning.
Feb. 21, 1841, at 11 ditto.
July 18, ——, at 2 afternoon.
May 6, 1845, at ½ past 10 morning.
May 17, 1863, at 5 afternoon.
Oct. 8, 1866, at 5 afternoon.
Dec. 31, 1880, at 2 afternoon.
Mar. 27, 1895, at 10 morning.

The principal Eclipses of the moon, *i. e.* total, visible in England will be as under:

July 2, 1833, at 1 morning.
Dec. 26, 1833, at 10 afternoon.
April 20, 1837, at 9 afternoon.
Oct. 13, 1837, at ½ past 11 afternoon.
Nov. 24, 1844, at 12 at night.
Oct. 13, 1856, at ½ past 11 afternoon.
June 1, 1863, at 12 at night.
July 12, 1870, at 11 afternoon.
Feb. 27, 1877, at ½ past 7 afternoon.
Aug. 23, 1877, at ½ past 11 afternoon.
Oct. 4, 1884, at ½ past 10 afternoon
Jan. 28, 1888, at ½ past 11 afternoon
Nov. 16, 1891, at ½ past 12 morning

May 11, 1892, at ½ past 11 afternoon.
July 3, 1898, at ½ past 9 afternoon.
Dec. 27, 1898, at 12 at night.

The two next transits of Venus will be in December 1874 and 1882.

Longitude is converted into time, by calling every 15 degrees an hour, ($\frac{360}{24}$) every degree 4 minutes of time ($\frac{60}{15}$) and every 15 minutes of a degree, one minute of time.

Fall of Bodies in 12 parts of seconds.		*Inches.*
$5'' \times \frac{193}{144}$	=	1.34
$10'' \times \frac{193}{36}$	=	5.36
$15'' \times \frac{193}{16}$	=	12.06
$20'' \times \frac{193}{9}$	=	21.44
$25'' \times \frac{193}{576}$	=	33.64
$30'' \times \frac{193}{4}$	=	48.25
$35'' \times 193 \times .3403$	=	65.68
$40'' \times 193 \times .444$	=	85.69
$45'' \times 193 \times .5625$	=	108.56
$50'' \times 193 \times .7$	=	134.01
$55'' \times 193 \times .84$	=	162.12
$60''$ or $1'' \times 193 \times .1$	=	193. 0

The intersection of three lines, drawn from the angles of a triangle, to the middle of the opposite sides, is its centre of gravity and percussion. If the lines bisect the angles, it is the centre of the inscribed circle; and if perpendiculars to the opposite, the intersection is the centre of the circumscribing circle.

Cannon-balls moving 1600, 1200, 1500, and 1060 feet per second, or near the mouth of the gun, penetrated elm 20 inches, 15, 30, and 16 respectively; oak at 1200, 34 feet; and earth at 1300, 15 feet. The balls were from 2 inches to 5½ in diameter.

In sandy soils, the greatest force of a pile-engine will not drive a pile above 15 feet.

Olive oil at 0° diminishes to 32° by .0162, and increases at 72° by .0229th; and at 175° by .0971.

The differential calculus of Leibnitz finds a small quantity, which taken an infinity of times is equal to a required quantity; and fluxions consider momenta as quantities. One is expressed by d, as $d\ x$, and the other by a dot, as $\dot{x}$.

An increase of 2 per cent. in every 10 years would double mankind in 350 years. An increase of 5 per cent. in 142 years, and of 10 per cent. in 73 years, of 32 per cent. in 25 years. So with decrease, and, if a population doubled in any period, it would in past time have been in the same period, but half, a fourth, &c. a consideration which proves the fallacy of the modern population theories.

A landscape in perspective should not include more than an angle of 60 degrees, or one sixth of the horizon. All lines perpendicular to the picture or perspective plane, vanish in the point of sight, and the size of objects is therefore inversely as their distance.

The *vernier* scale is 11-tenths divided into 10 equal parts, so that it divides a scale of 10ths into 100ths, where the lines meet even in the two scales.

A man five feet six inches high, on the sea-shore or on level ground, can see about three miles distant.

Cassini's meridian line, at Bologna, is 120 feet long.

St. Paul's London, is 5′ 47″ W. of the Observatory, Greenwich.

A fall of one-tenth of an inch per mile will produce a motion in rivers. The greatest velocity is at the surface and in the middle, and the least at the bottom and sides. But as the velocity increases, the action on the sides and bottom increases also. The mean velocities are as the area of the sections.

Numbers whose digits are divisible by 3, are as totals divisible by 3. Numbers of 3 places, in ascending arithmetical progression, are divisible by 3. In like manner any total composed of series in 3, or its multiplies 6, 9, or 12 with equal differences, are divisible by 3.

The square of every number, ending with 5 or 0, is equal to 2 square numbers, divisible by 3 and by 4.

To determine the number of fixed atoms in any bulk by their downward tendency, the hydrometer is a very convenient instrument, and it

gives the specifick gravity within the 40,000th part. In other cases, on being weighed in and out of water, as the lost weight in, is to that out, so is the specifick gravity of water to that of the body.

One link of a surveyor's chain is 7.92 inches, and a chain of 100 links is 22 yards, 10 chains being a furlong, and 80 a mile. 625 links, or 30¼ yards, is a pole or perch, 40 poles is a rood, and 4 roods, or 100,000 links, or 10 chains, or 4840 yards is an acre.

In cross multiplication 12 fourths is a third, 12 thirds is a second, and 12 seconds an inch. Feet into inches are inches, and into seconds are seconds; inches by inches are seconds, and by seconds are thirds; seconds by seconds are fourths.

A hide of land was 100 or 120 acres, and 5 was a knight's fee. Doomsday book reckoned 243000 hides in cultivation.

A standing tree is measured by squaring ¼th of the girth, and multiplying it by the height of the trunk.

The length of any arc of a circle is found by multiplying the degrees in the arc by 3.1416 times the radius, and dividing by 180.

The area of a triangle whose sides only are given, is found by taking half their sum, substracting each side, and then multiply the half continually by the three remainders, and the square root of that product is the area.

The area of a circle is the product of the diameter and circumference divided by 4.

To find the area of a spherical triangle, multiply the difference between the sum of its three angles and two right angles by the radius of the sphere.

To find the area of the segment of a parabola, multiply the base by the length, and take ⅔ds.

For an ellipsis, multiply the product of the two axes by .7854.

For the solid contents of a cylinder, the area of the base by the height. For a cone or pyramid, it is one-third.

For the area of spheres or parts, the circumference by the height, whether sphere, zone, or segment.

The solidity of a sphere is ⅔ds of the circumference by the diameter; or the cube of the diameter by .5236.

A paraboloid is the area of the base by the height and half the product.

A spheroid is the multiple of the fixed axis by the square of the revolving axis, and by .5236.

The area of a circle whose diameter is one, is equal to a square whose sides are .88622692: and the square whose sides are 1, is equal to a circle whose diameter is 1.112837917.

Neper's and Brigg's Logarithms.

Nos.	Neper's log.	Brigg's log.
1	0,000000	0,000000
2	0,693147	0,301030
3	0,098612	0,477121
4	1,386294	0,602060
5	1,609438	0,698970
6	1,791759	0,778151
7	1,945910	0,845098
8	2,079441	0,903090
9	2,197225	0,954240
10	2,302646	1,000000

Dr. Hutton, assuming the principle or miracle of attraction, computed the earth's total density to be 5.24 times that of water, or half that of silver; then La Place, to reconcile attraction to facts, estimated the sun as ebony; Mercury equal to fluid quicksilver; Venus to Zinc; Mars to diamond; Jupiter to milk; Saturn to fir; and Herschel to amber!

To square the circle nearly, for the use of mechanics, draw diameters of the circle at right angles to each other, and produce them each way, beyond the circle, till the produced part of each diameter is equal to one-fourth of the radius; and the four points, when conjoined, form a square nearly equal to the area of the circle.

A mechanical and universal rule of proportion, founded on cross multiplication, of the products of contrary cause and effect being equal, answering by one direct, easy, and general method, every thing that can be resolved by the direct, inverse, and every way compounded, rule of three.—1. Set down, in the first part of a first line, all the leading terms or conditions of a question, in any order, considered as the first cause, with the word or words of affection thereto; then set down, in the second part of the first line, the following terms or conditions, in any order, considered as the first effect produced by the first cause.—2. Set down, in the first part of a second

line, at some distance from, and directly under the terms of the first line, the second like preceding terms or conditions each under each, in the same order with those above them, considered as the second cause, with the same word or words of affection as before; and then set down, in the second part of the same line, the second like following conditions, each under each, in the same order with those above them, considered as the second effect produced by its preceding or second cause; always marking the term sought, in this second line, where it is found deficient, by a star, or asterisk.* Put unity for a term only understood.—3. Draw contrary or cross lines; *i. e.* from the terms in the first part of the first line to the terms in the second part of the second line; and from the terms in the second part of the first line, to the terms in the first part of the second line.—4. Multiply the term or terms in the part of the second line wherein the star term is found, (whether in cause or effect,) into the contrary terms in the first line, (standing at contrary ends of the same cross lines) for a divisor.—5. Multiply, also, all the terms together, standing at contrary ends of the other cross line, for a dividend.—The quotient arising from this divisor and dividend, after reducing the fraction to its least or lowest terms, by dividing the dividend and divisor by different equal quantities, will give the true answer in all cases whatsoever.

Always state the question so, that the first and third terms given may be of the same name, when the fourth term sought will be of the same name with the second. The rule is, if *more* be required to mark the less extreme, if *less* to mark the greater extreme, for a divisor and to multiply the other terms together for a dividend, when the quotient will be the answer.—*Heath's Palladium*, 1767.

A cubick foot weighs as under:—

Porphyry	*lbs.* 179	Derbyshire	*lbs.* 145
Gray Granite	171	Tafa	76
Marble	172	Pumice	38
Portland	151	Brick	97
Yorkshire	156		

The weight to crush porphyry is 640,000 lbs.; gray granite, 165,000; marble, 100,000; Portland stone, 82,000; and brick 34,000 to 14,000 per foot.

The specifick gravity of water at 5° is .9998; at 34 and 44° is .9994; at 39° is 1; at 54° is .99951; at 90° is .99511; at 100° is .99313; at 182° is .969; and at 210° is .95848. The expansion being at 34 and 44° from .00002 at 1° to .00005; at 100° being .00692; and at 212° being .04332. From 39° it expands both ways.

SPECIFICK GRAVITIES.

Agate, oriental	2.8
Alabaster, white	2.73
Amber, yellow	1.079
Antimony	6.72
Barytes	4.4
Basalt	2.98
Bismuth	9.8
Bone, ox	1.656
Box	1.03
Brass	7.824
Brick	2.
Butter	0.9423
Cedar	0.56
Chalk	2.252
Cinnabar	7.786
Cobalt	7.645
Coal	1.308
Copper	7.7
Cork	0.24
Diamond	3.52
Ebony	1.29
Elm	0.671
Fat of beef	0.9232
——— mutton	0.9235
Feldspar	2.5
Fir	0.6
Flint	2.59
Garnet	4.085
Glass, Crown	2.52
——— Flint	3.00
——— Plate	2.71
——— Bottle	2.732
Gold, pure	19.2587
—— Sovereign	17.629
Granite, red	2.654
——— gray	2.728
Gunpowder	0.836
Gypsum	2.167
Honey	1.45
Hornblende	3.6
Jasper	2.69
Iron, fused	7.2
——, bar	7.68
——, magnetick	4.52
——, stone	4.323
Ivory	1.825
Lead	11.352
——, black	5.77
Lignum Vitæ	1.33

Limestone	1.386 and 2.72
Mahogany	1.06
Magnesia, Hydrate	2.33
Manganese	6.85
Marble, Carrara	2.716
Mercury at 60°	13.58
——— solid, 40° below 0	15.612
Nickel	9.33
Nitre	1.7
Oak	1.17
Pearls	2.683
Peet, hard	1.329
Phosphorus	1.714
Platina	20.722
Porcelain, China	2.38
Porphyry, green	2.676
Pumice stone	0.9145
Quartz	2.647
Rock crystal	2.653
Ruby	4.283
Serpentous	2.43
Silver, virgin	10.474
Silver, shilling	10.534
Slate clay	2.67
Spar, fluor	3.156
Stalactite	2.324
Steel	7.84
Stone, paving	2.416
———, grinding	2.143
Sugar, loaf	1.606
Sulphur	2.033
Tin	7.17
Tin, hammered	7.519
Topaz	4.01
Tungsten	4.355
Wax, Bees'	0.9648
Zinc, pure	7.1908

FLUIDS.

Acid, Nitrick	1.27
——, Muriatick	1.94
——, Sulphurick	1.84
Alcohol	0.837
———, do. pure	0.829
Beer	1.034
Blood, human	1.054
Cider	1.018
Ether, Sulph.	0.73
——, Nitrick	0.908
Milk, women's	1.02
——, cow's	1.032
Oil, Olive	0.9153
—, Linseed	0.94
—, Whale	0.9233
Turpentine, spirits	0.87
Urine	1.02
Vinegar	1.025
Water distilled	1.000
———, sea	1.026
———, spring	1.0017
Wine, Port	0.997
———, Sherry	0.992
Wine, Claret	0.994

GASES.

Air (1.2 water 1000)	1.000
Nitrous acid gas	3.176
Chlorine gas	2.47
Nitrous oxide	1.614
Carbonick acid	1.512
Sulphuretted hydrogen	1.19
Oxygen	1,104 and 1.0359
Nitrous gas	1.094
Olefiant	0.978
Azote	0.969
Carbonick oxide	0.957
Steam	0.6235
Ammoniacal	0.59
Carburetted hydrogen	0.555
Phosphuretted hydrogen	0.435
Hydrogen	0.074 and 0.0721

THE ANIMAL KINGDOM.

Animal organizations consist of ten classes, depending on their bony structure, their warm or cold blood, their mode of rearing their young, lungs or gills, and having bony or no bony parts.

1. Mammalia have a double heart and warm blood, with an internal bony skeleton and brain, and they suckle their young.

2. Birds have the same, but do not suckle their young.

3. Reptiles have lungs, and jointed or divided members, but a single heart and cold blood, with a brain and cartilaginous skeleton.

4. Serpents have lungs, and a single heart and cold blood, but no jointed members, with a brain and skeleton.

5. Fishes have gills and fins, and no lungs, with a single heart and cold blood, with a brain and bony or cartilaginous skeleton; and no jointed or articulated members.

All these having vertebræ, are called Vertebral Animals.

But the following have no internal skeleton, and no brain, as—

6. Crustacea, with articulated members, and a circulatory system, with gills or branchiæ.

7. Insects, like the former, but with trachiæ and no circulating system.

8. Mollusca, with simple nerves;

9. Worms, with knotted nerves.

10. Zoophytes, with no nerves and no vessels, but without articulated members, and no skeleton or brain.

The last five are, therefore, called Invertebral Animals.

The Linnæan arrangement embraces Minerals, Vegetables, and Animals, in Classes, Orders, Genera, Species, and Varieties, with names and characters.

In Animated Nature he has six classes, consisting of Mammalia in 7 orders, 47 genera, and 577 species; Aves, 6 orders, 90 genera, and 2641 species; Amphibia, 2 orders 19 genera, and 366 species; Pisces, 6 orders, 66 genera, and 889 species; Insecta, 7 orders, 131 genera, and 10896 species; and Vermes, 5 orders, 118 genera, and 4036 species. In all 19405 species.

Mammalia are divided into 13 orders by Cuvier, 10 by Blumenbach, and 7 by Linnæus.

Linnæus distinguishes birds into 6 orders: *Accipitres*, angular projecting beaks; *Picæ*, compressed beaks, with climbing feet; *Anseres*, beak with skin, and broad at end; *Grallæ*, with three or four toes; *Gallinæ*, convex bill and arched upper mandible; *Paperes*, conick and pointed bills.

Birds are divided by Cavier into 6 orders, by Blumenbach into 8, by Linnæus into 6.

Insects are divided by modern entomologists into 680 genera, and every genus into many species. The study of each genus, its habits, economy, and wonderful ingenuity, according to its powers and the sphere of its existence, has afforded employment for years; and this branch of nature alone is so infinitely varied as to render the life of man unequal to its perfect knowledge.

Linnæus adopted 5 orders, defined by the wings—1. Coleoptera, with covered wings; 2. Angioptera, uncovered wings; 3. Hemiptera; 4. Aptera; and, 5. Vermes. This system he afterwards varied as follows:—

Order 1, Coleoptera, as beetles.

Order 2, Hemiptera, as bugs, locusts, and cockroaches.

Order 3, Lepidoptera, as butterflies and moths.

Order 4, Neuroptera, as dragon flies.

Order 5, Hymenoptera, as bees and saw flies.

Order 6, Diptera, with two wings, as gnats, flies, gad flies, &c.

Order 7, Aptera, without wings, as fleas, lice, spiders, mites, centipedes, crabs, &c.

Fishes are, by Linnæus, divided into five orders: Abdominales, Apodes, Cartalaginii, Ingulares, Thoracaci. Air is as necessary to them as to animals, and they respire in sleep twenty-five times in a minute. The air is extracted from the water by an apparatus called *branchial*, small, but extensive when spread out. They die in water deprived of its air, under ice, or on having their gills tied up.

Amphibia are cold blooded, and their lungs and heart are differently formed from warm blooded animals. Their lungs are like bladders or membranes; and the heart has only one ventricle, with a vein to convey it in and an artery to carry it out.

Their limbs and tail destroyed, grow again. They are torpid in winter, freeze with and in water, and revive when it melts. Frogs do not procreate till four years old, and tortoises live from one to two hundred years. Toads revive after being buried in rocks for countless centuries. Only a sixth of known serpents are poisonous.

Amphibia are divided into two orders, *Reptiles* and *Serpents*; and there are four genera of reptiles, testudo, draco, lacerta, and rana; and nine of serpents, crotalus, boa, coluber, angeris, amphisbœna, caecelia, achrocordus, hydrus, and langaya.

Some amphibia have branchæ like fishes, and lungs like land animals. The larvæ of frogs and some other species are thus formed.

Humboldt makes the species of insects 44000, of fishes 2500, reptiles 700, birds 4000 and of mamiferous animals 5000.

Adamson's great work on Natural History contained an arrangement of 40000 species, with a vocabulary of 200000 words, and 70000 figures drawn from the three kingdoms of nature.

Swammerdam, a Dutch philose

pher, printed his great work on insects in 1669. He divided insects into four classes, as spiders, &c. which include the modern classes crustacea, myriapoda, arachnoida, and acari. His second class consisted of those who appear perfect on leaving the egg, and have no wings till they shed their skin, and it includes the orthoptera, dermaptera, dicteroptera, hemiptera, and some of the neuroptera. In his third class he includes those hatched, as caterpillars, which change into a chrysalis, and remain so till perfect; it includes the coleoptera and aptera. His fourth class includes those who, on attaining their pupa state, retain their skin, as the hymenoptera and diptera.

Ray's work on Insects was published in 1712. He adopted two divisions, those which undergo no change, and those which pass through the state of larva.

Valasnieri, in 1730, distributed insects into four groupes. 1. Those who live on plants. 2. Those who live in water. 3. Those who live among stones. And 4. Those who subsist on animal remains.

In 1780, Mr. Drury formed a museum of 11000 species of insects, giving sixpence for all that might be brought him. It was afterwards sold for 600*l*.

Donovan's valuable work on British Insects extends to eighteen volumes.

Professor Martin published an account of 500 species of coleopterus insects found in England. M. Francilec collected 2000 species of the genus scarabacus. Mr. Jones, in 1794, announced a history of the genus papilio, in which he professed to describe 1400 species, 1000 of which he alleged he had seen.

The tusk or tooth of the male elephant, harder than horn and less brittle than bone, weighs from 120 to 200 lbs., and is brought from Ceylon and Africa. 100 parts contain 24 gelatine, 64 carbonate of lime.

Young elephants and females have no tusks, but are often killed in wantonness. The teeth imported have generally been found in the woods. Elephants are from nine to twelve feet high. They swim with ease, and live on vegetables. They respire and eat and drink through the trunk, which is so sensible as to pick up a pea or a pin. The young are three feet high, and the female seldom has twins. They grow for 30 or 40 years, and live 200 or 300, some say 400 years.

Under the genus Felis, Linnæus classes the lion, tiger, panther, leopard, ounce, ocelot, cat, serval, lynx, and caracal.

There are 2500 known species of fishes.

There are 69 genera of acarides or mites.

The rhinoceros is twelve feet long, with a horn three feet, and a skin so hard as to turn a sabre. They are solitary, and perfectly harmless, living entirely on vegetables. They are believed to be the unicorn of the Jews. One species has a smaller horn.

Pliny and others relate that Attilius, a Roman general, killed a serpent 120 feet long, near Utica.

Bears are of three species, totally distinct in their characters and habits. The black bear is a docile, harmless creature, living on roots and fruits, and mischievous only to bees, being very fond of honey. The brown bear on the contrary, is carnivorous and ferocious to other animals, but never attacks man unless first attacked. The white bear is often 12 feet long, ferocious in defence of its young against the more ferocious attacks of sailors, but preying chiefly on fish, and occasionally on seals. He is torpid in the snow during the winter. Each species is very sensitive and sagacious, and the unfortunate captive, the black bear, is made to perform feats for the diversion of *civilized* children. The young follow the dam for a year, and there are numerous anecdotes of their interesting attachment, when assailed by the greatest savages, and most remorseless of all savage animals.

There are four classes of apes or simia, called apes, baboons, monkeys and japajocs, in 63 species. The ourang-outang walks erect, and is often six feet high and very powerful, capable of imitating all the habits of man. The Barbary ape is known for his agility as an object of exhibi-

tion. The great baboon and dog-faced baboon are nearly 4 feet, and the preacher monkey, from a tree harangues, or howls, at monkey auditors. They all live on fruits and vegetables, and are harmless unless attacked.

It is a peculiarity of wolves, that they avoid passing under any thing, therefore shun woods, and seldom pass through hedges.

When wolves cross a river, they follow one another directly in a line, the second holding the tail of the first in its mouth; the third that of the second, and so of the rest. This figure was chosen by the Greeks to denote the year, composed of twelve months following one another, which they denominated Lycabas, that is the march of the wolves.

Abbe Pluche.

The full grown kangaroo weighs 150 pounds, and from the nose to the rump is 4 or 5 feet long, with a tail 3 feet. It uses its short fore feet as hands, like squirrels, and leaps on its hind legs 14 or 16 feet at a bound, faster than a dog can run. The female has a pouch for its young, and no creature can be more harmless.

The kangaroo displays a maternal feeling interesting to the moral sense. They are provided with an external pouch or bag into which the young retire in case of an alarm, and if the mother is wounded, she assists her offspring in its escape; on regaining a place of safety, she caresses it to dissipate its alarm, and if mortally wounded by any black or white savage, her attention is entirely directed to the security of her young.

Bull fights in Spain are equivalent to the fights of gladiators among the Romans, which at once disgraced and brutalized that people. The amphitheatre for this atrocious amusement, as it is called, is 330 feet in diameter, with an area of 225 feet, and sitting and standing room for fifteen thousand spectators. The assailants are called picadores, are on horseback, and provided with a long spear. The bull soon destroys the horse in the most horrid manner, and then other combatants on foot come in who carry cloaks to distract the bull till the picadore has procured a fresh horse, when the combat is renewed.

When a cow of the black cattle breed has two calves, one a bull and the other not, this other never breeds, and is of different character in size and habits, and known among farmers as a free martin, having the bellow of an ox, and no sexual propensities. Earth worms, &c. are of both sexes; and caterpillars and larva generally are of no sex till they change. All plants are hermaphrodite, except monœcia and diœcia. Mules and other mixtures do not propagate, and some cause of the same kind affects branches of the human family as stops to population; and hence the continual extinction of families; the male particularly being without offspring, as impotent or withered branches. Swammerdam traces this defect to luxury, and asserts that it arises oftener in royal and noble races than in others, their branches becoming continually barren or withered; and our extinct peerages and changes of royal lines justify his observation. We have no family of rank above 4 or 500 years old, while among yeomanry, successions may often be traced for 10 or 1200 years.

Mules are more hardy and longer lived than horses, bear heavier burdens, and are more sure footed. They are the product of a horse and she-ass, of an ass or mare, but do not propagate.

The lion has often been seen to despise contemptible enemies, and to pardon their insults, when it was in his power to punish them. He has been seen to spare the lives of such as were thrown to be devoured by him, to live peaceably with them, to afford them a part of his subsistence, and sometimes to want food himself rather than deprive them of that life which his generosity had spared.

Goldsmith.

Beavers are among the most sagacious of animals, and being gregarious, they claim sympathy by their social habits from every man who is a MAN. With their small paws and tails, they construct curious habitations, solid and strong. They choose a river, and form a dam across it with perfect foresight as to water way strength, &c. contriving to drive strong stakes three feet into the bed of the river. They live chiefly on

roots, of which they form magazines for the winter, and sufficient for their village of 18 or 20 tenements. European merchants seduce the savage Indians, for rum and tobacco, to hunt and slaughter these harmless creatures for hats, though there are better materials; and for the castor, articles of trifling value compared with the outrage on humanity.

The wild boar is the parent of the common hog, but smaller, less gluttonous, and living chiefly on vegetables. They are only dangerous when attacked, and then the means of defence are tusks ten inches long.

The camel in the east, is the most valuable servant of man. It eats little and drinks less; the milk makes cheese and butter; shoes and harness are made of his skin; and of his hair tents and clothing; while for burden, he is the ship of the desert, and his power exceeds that of the horse in travelling.

Camels are from 6 to 7 feet high to the top of the protuberance on the back, and they weigh from 3 to 4 cwt. The Bactrian camel is the largest, and has two bunches on its back. The dromedary of the Arabians has but one, and is the most common. The bunch on the back is glandular, and not connected with the spine. They move both the feet on the same side, and therefore jolt their riders. They require little and coarse food, and live for 10 or 15 days without water. They kneel to take up their load, and carry from 500 to 1500 lbs. They have cavities in the stomach which retain water, or as some suppose, a second stomach. Their average pace is 2½ miles an hour. The deserts could not be traversed without them. Dromedaries are swifter than Bactrian camels, and without a load go 6 or 8 miles an hour for 10 or 12 hours. Caravans consist of from 1 to 4000, and many Arabs possess 4 or 500. The Tartars employ them in wagons: they cast their hair every year, and it is made into cloths, stockings, shawls, carpets, &c. Their useful lives extend from 40 to 50 years.

It is computed that, in an ordinary way, a dromedary will perform a journey of 500 miles in four days.

Dr. Gall relates an anecdote of a dog which was taken from Vienna to England, escaped to Dover, got on board a vessel, landed at Calais, and after accompanying a gentleman to Mentz, returned to Vienna.

The hedge-hog, is an inoffensive animal, often barbarously treated by the vulgar: they live on roots and insects, in holes in banks, and roots of trees with a mossy bed. It is torpid in winter, and rolls itself in a prickly ball if in danger.

The badger is another perfectly harmless animal, and the object of brutal attacks by the lowest of the people. They are about two feet long, and live under ground, feeding on roots, frogs, and worms, and perfectly inoffensive; yet, to bait a badger with dogs is a disgraceful sport of the vulgar in most parts of England.

The hare is a timid, but very sensible animal; it cries like a child when caught in a snare, and exclaims *rafe* with human distinctness when worried by ferocious dogs and hunters. It lives 7 years, and is often tamed.

That harmless South American animal, the Armadillo, when in danger, rolls itself into a ball and very hard.

When a porcupine is irritated, he erects his quills, but does not dart or shoot them.

The Java squirrel flies from tree to tree, by a membrane stretched like a sail. They are 18 inches long.

Sheep in wild pastures, practise self-defence, by an array in which rams stand foremost in concert, with ewes and lambs in the centre of a hollow square.

Mice will live entirely without water; for though, says Dr. Priestley, I have kept them for three or four months, and have offered them water several times, they would never taste it; and yet they continued in perfect health.

Black rats are tamed in Germany, and a bell being put about their necks they drive away other rats. The economick rat of Siberia lays in a stock of winter provisions. The hamster does the same, and to assist him has pouches on each side the mouth.

The behemoth of the Jews was either the hippopotamus or mam-

moth, said in the Talmud to feed on a thousand mountains in a day; a speed which accords with the Indian tradition about them, and with that of the great and terrible dun cow of Dunchurch.

The sheep in the Shetland Islands are calculated at 150,000, and the finest of their wool is wrought into stockings at two guineas a pair; the coarsest very cheap.

The Angora cat has one eye blue and the other yellow.

Wild asses in Tartary and Thibet live in troops, and keep sentry; being very vigilant, and if attacked, swift in escape.

Hogs and dogs were the only animals in the newly discovered South Sea Islands. The West India Islands contained only a small animal, the agouti. The continent of America contained many large animals, but unlike those on the old; and New Holland, &c. &c. only contained kangaroos and opossums, unlike others any where else.

Bullocks perform indifferently with yokes and bows: in France, they draw by the horns. They plough an acre per day with ease. Four bullocks draw three tons of coals; two draw 35 cwt. three miles; and two draw 1020 sheaves, weighing 6375 lb.
Young's Tour, II.

The horn of the rhinoceros alone is erect and perpendicular to the bone, on which it stands at right angles, thereby possessing greater purchase or power as a lever, than any horn could possibly have in any other position.—*Bruce.*

English race horses run at the rate of from 55 to 58 miles an hour, or a single mile in 62 or 63 seconds. Stage coaches, with their draught, often run 11 or 12 miles an hour. In a passion for swift travelling, George III. always went on journeys 14 or 15 miles; and his son, the Duke of York, used to urge post-horses 16. Bakewell's black draft horses will draw above three tons. A horse has 24 grinders, 4 tushes, or single teeth, and 12 front teeth. At five the colts' teeth are shed and the tushes appear; at six they are grown, and at eight the black marks disappear, and the horse is then called aged.

The pouch of the kangaroo and the opossum is a fold in integuments of the belly, with an external opening, where the young are received in a tender state, and nourished by the paps within the cover.

In New Holland, the quadruped which most prevailed at its settlement in 1787 was the kangaroo, with very long hind legs and with short fore ones, with a sack or bag under the belly of the female for the comfort and protection of the young. Of these animals and opossums there were 50 distinct species; they are very delicate and very intelligent animals. Another native animal is a quadruped with the bill of a duck, called the *ornithorincus paradoxus;* the birds are equally original. The swans are black, and the eagles are white, some of them 7 feet high: every thing had an original character. All the quadrupeds are like opossums, all the fish are like sharks, and the very land, the trees, and vegetable products, resemble one another in peculiarity. Many thousand species of plants have been discovered, mostly new. Of the gum tree there are 100 different species, some of them 150 feet high and 40 feet round. There are also 100 species of the leafless *acacia,* and these two kinds of trees compose the woods of the country. Van Dieman's land lies between lat. 41 and 43½ south, and is 160 miles long, and 140 broad. The climate is milder than that of England; but in the winter, from May to July, the mountains are covered with snow. The Eucalyptus or gum tree grows to 180 feet high and 36 feet round.

The *pip,* a disease of poultry, is a thin film which grows under the tip of the tongue.

The European wild cat is not considered as the original of the domestic cat, but a Nubian which passed through Egypt into Europe.

One pair of pigs will increase in six years to 119169, taking the increase at fourteen times per annum. A pair of sheep in the same time would be but 64.—*Allnut.*

The Aranea avicularia is a spider, large enough to catch and kill small birds.

Wolves were destroyed in England between 961 and 964.

Herrings breed in the Arctick Ocean, and in April and May pass in immense shoals through the British Seas, followed by fishes and birds of prey. The Dogger Bank in the North Sea, 190 miles long, is the favourite resort of these and of turbot, cod, soles, &c. Other banks in the same sea, from Holland to the Shetland Islands, are also resorts of fish.

In the Bahamas the violet crab lives in the mountains, but spawns in the sea, and travels there for the purpose; after which the young crabs travel to the mountains.

Cock-chafers, so cruelly abused by untaught children, are such pets of nature, that they are six years in the grub state advancing to maturity.

Eggs are hatched at 104° of heat.

Hives yield from 60 to 100 lbs. of honey in a season.

At Coppermine River fish were so frozen as to break with the blow of a hatchet; but if others were thawed before the fire, they revived.

Spiders have four paps for spinning their threads, each pap having 1000 holes; and the fine web is itself the union of 4000 threads. No spider spins more than four webs, and when the fourth has been destroyed, they seize on the webs of others.

Perfectly white cats are deaf.

Young eels migrate from salt water to fresh through every obstruction.

The water beetle which lives on the spawn of fish, is said to convey it from one pond to another.

In Upper Canada travellers go in cars drawn by three dogs.

A fish in Java called the jaculator, catches flies and insects by squirting from its mouth some water, and seldom misses its aim at the distance of five or six feet, bringing down a fly with a single drop.—*Mitchel.*

Earthworms are said to restore themselves after being cut with a spade. A snail's head and horns grow again in six months. An eye of a water newt is replaced in ten months.

The liquor of the oyster contains innumerable embryos, with transparent shells—120 to the inch; and also other animalculæ, as three kinds of worms, &c. They turn over with the tide. The sea-star, men, cockles, and muscles are their enemies.

Marmots cut, make, and carry hay for their nests.

Swallows stay in England from 22 to 26 weeks.

Other birds from the arctick circle pass their winter with us and breed there, as the auk, the woodcock, snow-bunting, &c. which pass to Lapland, Greenland, &c. Some migrate by night and others by day, and the males go before the females as is well known to bird catchers. Some of them are supposed to travel at the rate of 150 miles an hour, and most of them start when the wind is fair. At this rate, swallows, &c. would reach the African coast in a day, and the German ocean would be crossed in a morning. The accidents of the journey and of the country thin their numbers, for fewer return than go; as population has increased some do not return at all, as egrets, cranes, &c. of which, anciently, there were many in England.

M. Hanhert saw a regular battle between two species of ants, in which they drew up in lines of battle, with reserves, &c. &c. and fought for four hours, taking prisoners, and removing the wounded till victory decided for one party.

The poor seals have found advocates in the phrenologists, the size of their brains indicating extraordinary intelligence, and their docility being interesting.

In Livonia holes are bored in old trees to receive swarms of bees, and with great success.

A hog killed at Newmarket, in December 1829, weighed 940 lbs. or 117 stone, or 67 stone 4 lb. horseman's weight.

Mr. Audubon describes the wonderful flocks of Pigeons which range over North America. He saw 163 in 21 minutes, all passing in one direction; at the rate of a mile per minute, and he estimated each flock as containing a billion of pigeons, and in this way, they were passing for three days.

A toad was found at Organ in France, in a well, which had been covered up for 150 years. It was torpid, but revived on being exposed.

When bees leave a hive, all the individuals first reconnoitre the new situation in small parties.

Reptiles become torpid when the temperature is below 40°. Snails, mollusca, and land testacea do the same. In hot and equal climates, as between the tropics, instances of hybernation are unknown.

The sleep of winter and that of night are different in those animals which are torpid for months. The bat, the hedge-hog, the tawrie, the marmot, the hamster, the tortoise, the toad, snakes, mollusca, spiders, bees, flies, bears, badgers, &c. retire to their closed holes, and, in various degrees, undergo a temporary death for four, five, six, and seven months of the year. They usually roll themselves up, but bats suspend themselves in caves. Those who lay up provisions use them before they become torpid, and on reviving before they venture abroad. Their temperature lowers; their respiration is less frequent and at intervals, the circulation is reduced; they lose their feeling, the digestive organs are inactive, and they suffer loss of weight. The confined air in which they shut themselves, added to the cold, is a cause of their torpidity. Facts lead to the belief that some birds hybernate.

Two raindeer drag a sledge 50 or 60 miles a day. The traveller is tied m it, and poises it as necessary.

Fallow deer fight in parties for their pasture, often for successive days. The males for the females till one is master.

In mountain flocks of sheep, a ram or wedder takes the lead, and will kill a dog or resist a bull; and at times the whole draw up in battle array, and fight without retreat.

One-eighth of the sheep in Great Britain perish every year of various diseases. There are supposed to be thirty millions.

Herds of cattle, when attacked by a wolf, place the calves in the centre of a circle, and resist in form; or the bull advances and drives away the enemy.

The horns of the Abyssinian ox are nearly four feet long, and seven inches diameter at their base.

The Abyssinian buffalo is double the size of our oxen; and two draw as much as four horses there, in Egypt, and Persia.

Childers ran four miles in 6 minutes, 48 seconds, or at the rate of 35¼ miles an hour, carrying 9 stone 2 lbs.

A horse frequently sleeps while standing.

Spanish asses are often 15 hands high.

The mule is the produce of the *male* ass and mare, and the *hinny* of the she ass and horse. The mule is larger, more like the mare, and the hinny more like the she ass. Neither propagate with one another.

The ursine seals live in communities, every male having ten or twelve females, protecting his own family, and preserving social intercourse, with great interest and sagacity.

The dam of the northern foxes will follow those who kill her young for 60 or 70 miles, and howl round them by night and day, till she has in some way avenged herself.

The dog, the fox, wolf, and jackal intermingle their breeds. Jackals hunt in packs with much noise, and hence drive prey into the haunts of lions, &c.

Marmots make spacious and convenient habitations of several chambers, some of them several feet in diameter.

The spines of the porcupine are from nine to fifteen inches, and perfect hard quills, which the animal can raise at pleasure, but not dart as pretended. They roam by night in quest of roots and vegetables, and are inoffensive, their spines protecting them from all attacks.

The sloth crawls on its belly, and does not advance above 100 yards in a day. It is two days in climbing and descending a tree.

The hippopotamus lives and walks in water for security, occasionally thrusting up its nostrils or head. In the night it feeds on sugar-canes, rice, maize, corn, &c. They weigh

2½ tons; but are inoffensive unless attacked, or in the pairing season.

Dromedaries have been tried in the West Indies, but without success.

The herds of lamas, and those of most animals, have sentinels to give warning of the approach of danger.

Male deer only have horns, which, after their sixth year, they shed annually; they weigh from twenty to twenty-five pounds. The park deer are called fallow deer. The great red deer are less common. They have a leader, and, if necessary, fight in concert. The females expose themselves to save their young.

Size of Mammalia.

Man—4 to 5 feet in Lapland and Labrador; 5½ to 6½ feet in Europe and Asia; 5 to 5¾ in Africa and America; and 6 to 8 feet in Patagonia.

Ourang Outang	4½ to 5½ feet
Pigmy apes	2 feet
Four-fingered	1½—tail 2 feet
Striated monkey	5 inches
Vaulting monkey	13 inches
Malbrook	1½ feet
The Barbary ape	3½ feet
The sphynx	3 or 4 feet
Dog-faced baboon	5 feet
The preacher	3½ feet
The lemur	1 foot
Vampire	6 to 12 inches
Common bat	4 or 5 inches
Spectrum bat	7 inches
Hedgehog	10 inches
The Shrew	2½ inches
Mole	6 inches
Tiger	2½ feet
Glutton	2½ feet
Ratel	2 feet
Racoon	2 feet
Ichneumon	15 inches
Weasel	7½ inches
Ferret	14 inches
Martin	18 inches
Ermine	10 inches
Sable	11 inches
Polecat	17 inches
Zurilio	17 inches
Otter	3½ feet
Lion	6 to 8 and 9 feet
Lioness	5 to 6 and 7 feet
	Tails 3 feet, height 3 to 5
Tiger	8 to 9 feet
	Tail 4 feet, height 4 feet
Wild cats	2 to 5 feet
Lynx	4 feet
Civet	2 feet
Hyena	3 feet
Fennec	10 inches
Wolf	2½ to 3 feet
Fox	1½ to 2 feet
Jackal	2½ feet
Opossum	15 to 18 inches
Wombat	2 feet
Kangaroo	3 to 4 feet
Flying squirrel	6 inches
Ordinary squirrel	8 inches
Jerboa	7 to 8 inches
Dormouse	6 inches
Marmot	10 inches
The porcupine	2½ feet
The ant-eater	12 inches
	Spines 4 feet
Great ant-eater	4 feet
The pangolin	6 or 8 feet
The armadillo and tail	5 feet
The elephant	10 or 11 feet
	8 to 10 feet high
The tapir	6 feet
The rhinoceros	12 feet
	6 or 7 feet high
The hippopotamus	12 to 20 feet
The dromedary	6 or 7 feet
	9 feet high to top of head
The Lama	6 feet
The musk deer	3½ feet
The stag	4 to 5 feet
Roebuck	3¾ feet
Raindeer	4 to 5 feet
Giraffe	15 or 16 feet high
The chamois	3 feet
The antelope	3½ feet
The pigmy antelope	10 inches
The bottle-nosed seal	11 to 18 feet
Ursine seal	6 to 9 feet
The maned seal	10 to 14 feet
The common seal	4 to 6 feet
The walrus or morse	15 to 18 feet
Manati	20 to 28 feet
The Siren	5 feet

Mamiferous animals are divided into unguculated with nails, ungucu-lated with hoofs, and nectopode or Web-footed. The first order is man, or homo—the first family of the second order is the simia or monkey tribe, in 9 genera, and many species. These live in colonies, and distinct species in the same forest without mutual annoyance, and in the same trees with parrots. They mimick man in every thing. The ourang-outang has no tail, and full grown, are 5 or 6 feet high. Their arms are long, and they use them as legs and hands. They carry clubs for offence, move in herds, and reside in huts made of leaves. Two or three which have been brought to Europe were

docile, sensible, imitative, and very affectionate. In Africa they perform much labour, and are very useful. The pigmy without a tail is but 2 feet high, but very ingenious, active, and mischievous. The mona monkey is a great favourite in India, and they are fed and encouraged in some places. At Amanadab the Gentoos have three hospitals for them, and at Dherboy they are more numerous than men, and must be fed or do mischief.

It is the magot or Barbary ape which is usually made to perform feats in Europe. The sphinx-baboon is 3 or 4 feet high. In Borneo they pillage houses, and move in large and very mischievous troops. The ursine baboon resides in the high lands, near the Cape of Good Hope, and is very mischievous, and often dangerous to single travellers, carrying clubs and throwing stones with great dexterity. The preacher monkey or Beelzebub, fills the woods with noise, travelling on the tops of the trees, and one haranguing the rest, displaying in every thing perfect sagacity.

The lemur family in 5 genera, are like the monkey, except in the head, which more resembles the fox, and they are less imitative, though in trees as active as monkeys.

Bats have two pectoral teats and the thumb separated from the fingers. They fly, but they have neither feathers nor beak, they are covered with hair and have teeth. They breed living young and suckle with teats. Their wings are the drapery of their bodies except when they stretch it to fly. They fly in the dark, and avoid objects not by seeing, but by some sense.

The Hamster rat is of the largest species, very bold, fierce, and destructive. They construct very curious dwellings and are dormant in winter, but store up provisions. They are without fear and fight till overcome; and so numerous as to create scarcities of grain. The meadow mouse has similar habits, but it is timid, though destructive of corn crops.

The Lemming varies in size from the rat to the mouse, and is celebrated for its numbers, and their straight line of emigration in tens of thousands, never turning aside, and destroying as they advance, but encamping at times, and acting with method.

Mice are easily tamed and are very amusing, being fond of musick, and very clean, elegant, and harmless. They shun the odour of elder.

Brown rats were unknown in England till 1730, but they now exceed native black rats in numbers. Their numbers drove the Dutch from the isle of France. They are often tamed and have been taught to play tricks.

Guinea pigs or cavies are the most prolifick of animals, but very harmless and amusing, also very clean, feeding on herbs, parsley, &c.

Hares are universal animals, but of various sizes, from 7 to 12 lbs. In the arctick circle they are white in winter. Their stratagems to escape danger are numerous and ingenious, but besides man, the enemy of every thing living; they are the prey of dogs, cats, weasles, eagles, &c.

Rabbits do not burrow in hot climates. They have sentinels to give warning of danger, chiefly females, who enter the holes last. The Tartarian hare is not larger than a rat, and lives in deep burrows.

The great ant-eater catches ants by stretching out its tongue and lying still, and on the ants rising on it he draws in his tongue. But it often breaks into the hills and penetrates them with his tongue till satisfied. They have been tamed.

Mole-hills are curiously formed by an outer arch impervious to rain, and an internal platform with drains, and covered ways on which the pair and their young reside. They live on worms and roots, and bury themselves in any soil in a few minutes.

Badgers form houses like moles, under ground, and in rocks, and though a large animal 2 or 3 feet long, it is perfectly inoffensive, and easily domesticated. The glutton is the size of the badger, and very fierce and voracious, eating from 6 to 13 lbs. of flesh per day. The racoon, of the same genus, is well known in Jamaica, &c. where in troops, it devours the maize and fruits, and displays great ingenuity

in catching shell fish. The ichneumon, in Egypt, performs the office of the European cat as a destroyer of rats and reptiles, and devourer of eggs. It is like the cat, but legs shorter. The weasel has similar propensities in northern climates. The ferret is the length of a cat with the habits of the weasel. The martin is an enemy of cats. The ermine or stoat, and the sable are like weasels, but longer, and their skins fetch high prices. The pole-cat is larger than the male house cat, and very destructive to poultry, pigeons, rabbits, &c. The genus mephitus, has glands near the anus, which secrets a fetid acrid liquor which they squirt on their enemies with unerring destruction to clothes and skin, and so offensive as to be distinguished for a mile or two around.

Animals which live on vegetables have no gall bladder. It is the same with the pigeon, parrot, and ostrich, and with mollusca.

In some *ruminantia* the intestinal canal is 27 times the length of the animal, and in *rodentia* 15 times: in hogs 13 times: in the horse the colon is 24 feet, but in the dog only 6 or 8 inches. In the turtle the intestinal canal is 5 times the length of the body.

The hoofs of animals are similar to the nails of man, and grow from the roots. Hair and feathers are analogous to the human hair.

Horns of animals are similar, in general, to nails and hoofs; in cows, sheep, &c. they are formed of concentrick layers in fibres, like a collection of hairs agglutinated together. In deer they are bones attached, but in the giraffe part of the skull.

The guinea pig has 10 teats, the rat 12, and the hare 10. In a laying hen, the ovary contains a great number of yellow round bodies, each in its own membrane or calyx, which when exuded is received into an extension of the membrane, forming a bunch, of which the outer are the largest. These are the yolks of future eggs, to be provided with whites and shells.

The procreative powers of animals are so various that Linnæus had a design to extend his sexual system to them. Leeches and earth-worms are hermaphrodite, as well as snails and slugs.

The brain of fish is small and does not fill the skull. They have no tympanum, and no external ear. They have neither windpipe nor larynx, but breathe by gills. Their nose is not connected with respiration, and they have no urinary bladder.

In the ovula of carp fish, called the roe, nearly 150000 germs of eggs have been counted, and in that of the sturgeon, weighing 160 pounds, nearly 1500000.

The antennæ, or double, or quadruple horns of insects are so curiously shaped that 160 different forms have been noted. They are an organ of power and discrimination, like the arms of a man, or the trunk of an elephant, and have been supposed to be the residence of a peculiar or sixth sense.

The bones of birds are hollow, and filled with air instead of marrow.

Crustacea have teeth within the stomach.

In serpents and fish both jaws are moveable.

In animals that have no circulating system, the air is respired by air tubes running below the skin, called tracheæ, as in insects and mollusca; or it passes through the integuments to every part of the body, as in worms and zoophytes.

The lungs of birds are small, and of a flattened form, and much dispersed; but they respire through the bones and in cavities of the muscles.

All hair is hollow and cylindrical. Young birds are covered with it, and feathers are a variety proceed from a bulbous root in the skin.

In the larva of insects there is an air tube on each side, with branches and several apertures.

The neighing of a horse is effected by a membrane which is attached to a cartilage, and runs along the margins of the glottis. The braying of an ass is produced by a similar membrane, and two large sacs which open into the larynx. It is the same with the mule. In apes, the bone connected is concave, and hence their noises.

The liquid poison of vipers and other animals is of a yellow colour. It is secreted in two small vessels, and communicates by a tube with the crooked fangs of the viper. It has no taste, but applied to the tongue produces numbness. A brownish yellow substance, like gum arabick, remains after evaporation. Taken into the stomach it kills small animals immediately. The poison of the bee is similar in appearance. It does not yield to the ordinary tests of analysis.

The gills of fishes are composed of four plates on each side, and communicating with the throat by a single opening for each gill. They receive the water by these holes, and discharge it by a different opening, after appropriating the air. The gills too have a moveable cover.

The gills of the cancer are near the legs; and in snails there is a cavity in the neck, which can be opened by the animal at pleasure, and which communicates with pulmonary vessels.

The *rete mucosum*, the coloured layer which lies between the cuticle and the skin, is one-sixteenth of an inch thick in whales, and is of the consistence of the grease rubbed between the nave and the axle of wheels. The rete mucosum gives colour to all animals, and Cuvier considers shelly coverings as analogous to it.

In many animals torpid in the winter, the fat in the cellular membrane is absorbed as nourishment. In some, as whales, hogs, seals, &c. it is nearly fluid. In some, the integuments have muscles; as laughing in man, the power of coiling in the hedgehog, of moving feathers in peacocks, turkeys, &c.

Hairs are a sort of vegetation on animals. Their trunks are round, triangular, or square. It may be bleached on grass, like flax, and dyed of any colour. It is made to curl by boiling and baking. 1152 grains yield 90 of carbonate of ammonia, 179 water, 288 gas, and 324 coal. It contains silex, sulphur, oil, iron, manganese, and lime. It measures in man, the forty-eighth of an inch.

The ossification of soft parts of bodies arises from the deposit of phosphate and carbonate of lime on the part.

Horn is distinguished from bone by its bending, and softening by heat and water. They consist of albumen, some gelatine and phosphate of lime.

Ambergris is an internal production of deceased spermaceti whales.

Spermaceti is produced from the head of the cachelot, and ambergris is the excrement of its intestines.

The Bezoar stone sought as a charm for the cure of many diseases. is produced in the stomach of goats, antelopes, and sometimes camels. Its nucleus appears to be some indigestible hard seed or stone, and its specific gravity is from 1¼ to 2¼.

Fish and birds can see through the nictitating membrane, which they draw over their eyes to screen them from the sun.

The peculiar secretions of animals are as under :—

Castor, near the end of the rectum in the beaver.

Civet, in the same part of the civet cat.

Musk, near the navel of the male musk.

Fœtid emanations in many when attacked.

In whales, *spermaceti* and *ambergris*.

Oil, by birds, to lubricate their feathers, taken from the rump.

Poison, by serpents.

Silk, by the larvæ of the silkworm; and the webs of spiders.

The *acrid matter* that passes through the stings of wasps and bees.

The *inky fluid* of the cuttle-fish, in a bag near the anus.

Silky matter produced by the sea muscle, &c.

Leach divides insects in 15 orders.

SUBCLASS I. AMETABOLIA.

Insects undergoing no metamorphoses.

ORDER I. *Thysanura*. Tail armed with setæ.

ORDER II. *Anopluri*. Tail without setæ.

SUBCLASS II. METABOLIA.

Insects undergoing metamorphoses.

CENTURY I. *Elythroptera*. Insects with elytra.

COHORS I. *Odontostoma*. Mouth with mandibles.

Metamorphoses incomplete.

ORDER III. *Coleoptera*. Wings transversely folded; elytra crustaceous, covering the wings, with the suture straight.

Metamorphoses nearly coarctate.

ORDER IV. *Strepsiptera*. Wings longitudinally folded; elytra coriaceous, not covering the wings.

Metamorphoses semi-complete.

ORDER V. *Dermaptera*. Wings longitudinally and transversely folded; elytra somewhat crustaceous, abbreviated, with the suture straight.

ORDER VI. *Orthoptera*. Wings longitudinally folded; the internal margin of one elytron covering the same part of the other; elytra coriaceous.

ORDER VII. *Dictuoptera*. Wings longitudinally folded twice or more; elytra coriaceous, nervous, one decussating the other obliquely.

COHORS II. *Siphonostoma*. Mouth with an articulated rostrum.

ORDER VIII. *Hemiptera*. Elytra somewhat crustaceous, or coriaceous; towards the apex generally membranaceous, horizontal, one decussating the other obliquely. Metamorphoses half complete.

ORDER IX. *Omoptera*. Elytra entirely coriaceous, or membranaceous, and meeting obliquely, with a straight suture. Metamorphoses semi-complete, or incomplete.

CENTURY II. *Medamoptera*. Insects without wings or elytra.

ORDER X. *Aptera*. Mouth with a tubular sucking rostrum. Metamorphoses incomplete.

CENTURY III. *Gymnoptera*. Insects with wings, but no elytra.

COHORS I. *Glossostoma*. Mouth with a spiral tongue.

ORDER XI. *Lepidoptera*. Wings four, membranaceous, with peterigostea, covered with meal-like scales.

COHORS II. *Gnathostoma*. Mouth with maxillæ and lip.

ORDER XII. *Trichoptera*. Wings four, membranaceous, with peterigostea, and hairy.

COHORS III. *Odontostoma*. Mouth with mandibles, maxillæ, and lip.

ORDER XIII. *Neuroptera*. Four highly reticulated wings, generally equal in size; anus of the female without a sting, or compound borer.

ORDER XIV. *Hymenoptera*. Four venose wings, hinder ones smallest; anus of the female with a sting, or with a compound borer or oviduct.

COHORS IV. *Siphonostoma*. Mouth tubular, formed for sucking.

ORDER XV. *Diptera*. Wings, and halteres or balancers two.

Few insects live more than a year in their perfect state, but often much longer in their larva state. Their first state is the egg, then the caterpillar, then the chrysalis, or pupa, and finally the perfect and procreative form. But in these changes there are infinite degrees and varieties of transition, all which constitute the pleasing and very instructive study of entomology.

Insects appear as eggs hatched in a caterpillar or larva, which changes into a motionless chrysalis or nympha, the covering of which bursting, a butterfly, evolves with wings, long jointed legs, and two antennæ. Some have jaws, others no jaws; some have no wings, and others have four wings variously marked, and one order but two wings.

Insects have lymph instead of blood, and no bones, but hard coverings to which the muscles are attached. They have no vertebra. They do not breathe through the mouth or nostrils, but have air vessels along their sides, called *spiracula*, and connected with other vessels called *bronchiæ*. They have the organs of sense, and make all the discriminations which accord with their physical powers and wants. They are oviparous, but scorpions and aphides are viviparous. All the winged insects exist as larvæ, and undergo metamorphoses previous to their perfect or propagating state. The male is always smaller and more coloured

than the female, which alone have stings, but males have horns.

Insects breathe through holes or pores on each side of every segment of the abdomen, called *spiracula*.

The antennæ are important organs of insects, equal to the hands of man. By them the bee works in constant darkness.

There are 292 species of the bee or apis genus, and 111 in England: among solitary bees the following deserves notice:

The *rose-cutter* separates circular pieces from leaves with precision, and digging a hole 6 or 8 inches deep in the ground, the bee rolls up the leaf and depositing it in the hole, lodges and secures an egg in it with food for larvæ when hatched, and often several, but all separated, and very perfect; and the bee then resides in the upper part to protect her brood.

The *upholsterer* makes a hole enlarged at the bottom, and lines the whole with red poppy leaves, lays her eggs, supplies them with food, &c. separately, then turns down the lining to cover them, and closing the hole leaves them to mature.

The *wood-piercer* makes a perpendicular hole with vast labour in a decaying tree in the sun-shine, a foot deep. Then deposits her eggs and food, and separates each by a dwarf wall made of saw-dust and gluten, each higher than the other, and the last closing the hole; and she then makes another hole horizontally, to enable them to escape as they successively mature.

The *mason-bee* constructs a nest on the side of a sunny wall—makes up sand pellets with gluten, and by persevering industry fixes and finishes a cell in which it lays an egg and provisions. It then forms others beside it and covers in the whole, the structure being as firm as the stone.

Wasps and *humble-bees* make cavities in banks. They line them with wax, and make innumerable cells for their eggs in perfect communities, working together and forming lines in the removal of whatever incommodes them.

The *honey-bee* is well known and deservedly respected for the use which man makes of their industry, and too often by the wholesale *murder* of the ingenious creatures whom he robs. But this most cruel practice is now even from selfish motives abated. The queen is the mother of the whole hive, and her eggs become males, females and workers or neuters, which last make the combs and cells, and collect the honey. The queen produces some thousands of workers, and then males, which the workers kill at the end of the summer. The workers attend the queen with anxious respect. If she die, they raise a new one by various arts from a working worm. Two queens cannot live in the same hive, and one is destroyed.

They have four wings and six legs. The body is covered with hair and each hair is like a plant in miniature. The proboscis is employed in collecting honey by licking it from the flower and conveying it to the stomach, whence it is disgorged into the cells. The wax is formed from the honey. The females and workers have a sting, but the males or drones none. It is double and provided with barbs, which the animal depresses and draws out the sting unless suddenly driven away. The sting emits a poison into the wound.

In proportionate size the queen bee is 8½, the male 7, and the workers 6. A queen will lay 200 eggs daily for 50 or 60 days, and the eggs are hatched in three days. The workers are 5 days in the worm state, and in 20 days they become bees. The males are 6 or 7 days in the worm state, and 24 days in becoming perfect bees. A queen is 5 days in the worm state, and in 16 days is perfect. When eggs are converted into queens the old queen destroys them, or if there are two young queens they fight till one has killed the other. One author asserts that a single queen has produced 100000 bees in a season. Every thing depends on the workers; they collect the honey, make wax, and build the combs, they supply the worms with food, and protect the entrance of the hive; separate business being performed by classes.

There are about 9000 cells in a comb of a foot square; their first purpose is as nurseries for the young,

and they are then cleaned and filled with honey. 5000 bees weigh a pound. 20 or 30 pounds of honey are generally got from a hive, sometimes 80 or 100 lbs., and even more. Formerly it was an inhuman practice to suffocate and destroy the bees, thereby uniting murder with robbery; but good managers have, for many years past preserved them and fed them during the winter, by which plan, five hives at 1*l.* each, have in ten years yielded a profit of 1280*l.* To destroy the swarm for the sake of the honey, is like cutting down fruit trees for the sake of the fruit, independent of the atrocious cruelty attending the practice.

A swarm of bees contains from 10000 to 20000 in a natural state, and from 30 to 40000 in a hive.

All the experiments on bees prove, that love for their queen and her progeny is the sole stimulus to their persevering industry. Their joy, grief, and other passions are distinguished in the tone of their humming, which to them are articulate sounds. It is the same with other insects, and with all animals, with various extents of vocabulary.

The hexagonal cells of bees have angles of 109° 26′ and 70° 32′, being the least matter and the largest size in the space.

The wasp's nest is equally wonderful with the bee-hive, and forms a regular city, fortified against encroachments, and containing 15 or 16000 cells for young.

There are 500 species of the parisaical flies called ichneumon. They deposit their eggs in other insects or animals, and there the larva are hatched and find nourishment.

A single female house-fly produces in one season 20080320!—*Haller.*

There are 72 species of aphis from a line long to the size of a fly. They are the blight of vegetation. They are hermaphrodites for the most part, and oviparous. Their excretions are honey, and they are the food of bees and other insects. But they puncture and curl leaves, and destroy wherever they harbour. Earwigs and birds also destroy them, and ichneumon flies make their bodies depositaries for their eggs.

Ephemera are a genus of short lived insects which live in their perfect state some 2 or 3 days, some a night, and some species not above an hour. As larva and chrysalis, they live for two or three years in water. But in their final form they propagate and die, the female in this short time laying some hundred eggs on water which sink to the bottom.

The louse lays 60 eggs in 6 days, which are hatched in other 6 days.

The itch is caused by a mite which lives in a vesicle of the skin. In other cases, the same genus obtains a habitation in the body, causing a disease called *morbus pedicularis.*

Of centipedes or Scolopendra there are 19 species, some very large with two legs for every division of the body, but seldom, if ever, 100.

There are 60 species of the dragon-fly, all very ravenous in regard to smaller insects.

The gad-fly deposits its eggs in the bodies of horses, cattle, sheep, &c.

The Peruvian fulgora or lantern-fly is above 3 inches long. The head or lantern is half its length and of a straw colour, and the light splendid. There is also a smaller species in India.

There are several hundred species of the scarabœus or beetle genus. The hercules species is 5 or 6 inches long and beautifully marked.

A thousand species have been enumerated of the genus musca or fly.

In Mexico and South America, fire flies are very common, which shine by so strong a phosphoric light, that a person may read by the light of three of them. The largest species have a luminous patch under the belly, and one on each side of the head. Another species has the light under its wings. When the fly is dead the light continues, and may be transferred.

There are no grounds for the terror inspired by ear-wigs. No medical case is recorded of mischief from them, and oil or brandy would instantly kill, or expel them; while they can in no case penetrate beyond the external orifice.

The speckled caterpillar, which produces the magpie moth, lives through the winter on currant and gooseberry trees.

Many spiders, moths, and beetles. counterfeit death when in danger, and no torture will make them show signs of life while the danger continues.

Gossamer consists of the fine threads of the flying spider, covered with dew.

The order *Parasita* includes the louse species, which are so numerous that every species of bird, and it is believed every animal, has its own particular kind; and the same species never was found on two distinct species of birds or animals.

The species of louse which runs on the bodies and garments of men is not the same as that which inhabits the head.

The *monas*, a water hydated or viscid bubble, is the first germ of animal secretion, or stomachick absorption.

Leuwenhoeck reckoned 17000 divisions in the cornea of a butterfly, each of which he thought a separate crystalline lens. Spiders, &c. are equally provided for.

The flea, grasshopper, and locust, jump two hundred times their own length, equal to a quarter of a mile for a man.

The insect which eats round holes in furniture is the DERMESTES *domesticus* and the species *lardarius* eats the leather off books and any animal substance.

The *termes fatale* or white ant, builds pyramidical structures 10 or 12 feet high, divided into a vast variety of apartments, and so strong as to permit four men to stand on them. The community is well governed, they appear in discipline to exceed all animals.

The ant-hills of our fields are full of cells and passages curiously formed with twigs and weeds cemented by their own gluten. They disfigure a field, and do not diminish but rather increase its productiveness for grazing; and in grazing districts they abound, and are seldom disturbed. They present a larger surface to the air and increase the quantity of grass and animal food, while they fertilize the soil.

The nests of ants are managed by the neuters, and usually established in mole hills, or among the roots of trees. There are eighteen species, and they are remarkably intelligent, ingenious, and industrious. Nests often fight like men, and kill vast numbers of each other.

An ant's nest consists of males and females, who have wings; and also of neuters. The females enjoy the same pre-eminence as among bees; but the manners of ants are more varied, and system, object, and end, mark all their varied reasonings and labours. They have long and tenacious memories, know each other, and distinguish any stranger. They carry on systematick wars, and practise all the arts of attack and defence. Man himself is not more savage in war: but they are citizen soldiers, and not hired and trained for butchery and murder. They also practise slavery, making slaves of those they overcome. They keep aphides, as men keep cows, for the juices which they yield. Their nests are formed at pleasure, and their cells of various forms. In Brazil they are almost masters of the country, and in Africa not less formidable. The termites white ants, or cutters, not only destroy furniture, clothes, &c. but raise conical buildings nine or ten feet high like villages, which it is inconvenient to approach.

There are 6 or 7 generations of gnats in a summer, and each lays 250 eggs.

Bees, beetles, dragon flies, gnats, spiders, &c. have been observed to have minute *acari* or mites on their bodies.

The gall fly forms the gall nuts on trees and plants by its eggs and young, and the gad-fly does the same in the skins of cattle.

There are 50 species of wood-peckers. The largest native of England is the green, 13 inches long, an enemy of ant-hills.

The black ostrich stands 7 feet high. Their speed is that of the horse, and they can carry a man. The cassowary is as large but has a shorter neck. Both of them are African, and they feed on vegetables.

In Norway, eagles destroy oxen by the following contrivance: they dive into the sea and then roll themselves in the sand and afterwards, by flapping their wings and shaking their

feathers into the eyes of an ox, they blind it and overcome it.

The American pelicans carry food to any other who is ill or disabled. And the pelican carbo or cormorant is used on the Chinese coast for fishing, and formerly was so used in England. Gannets abound in the western islands, and 20,000 are taken annually at St. Kilda.

There are 32 species of the falco genus, including most birds of prey, as eagles, kites, hawks, falcons, &c. They are very active, keen-sighted, strong, and long-lived. They live on young animals, fish, seals and other birds. It is a libel on human nature to state that these savage birds used formerly to be tamed and used for the genteel pastime of falconry.

There are 4 species of swallows, or hyrundo genus; the chimney swallow (*rustica*), the house martin (*urbica*), the sand martin (*riparia*), and the swift (*apus*), and they arrive in spring in this order.

The bird of Paradise is a native of North Guinea, near the Equator. They migrate to Aroo in flights, but will not live in the cruelty of confinement.

There are 50 species of owls, a bird of night, and very solemn in its appearance, having a ruff which resembles the full wigs now worn only by judges.

The birds which pass but part of the year in Britain, are the cuckoo, grouse, wryneck, stare, hoopoe, thrushes, ring-dove, chatterer, turtle-dove, grosbeaks, buntings, finches, larks, fly-catchers, wagtails, warblers, nightingales, black-caps, willow-wrens, white-ears, white throats, goat-suckers, herons, curlews, snipes, rails, wild-ducks, and other water fowl.

Carrier pigeons are a larger species than the common pigeon. They have a wattle extending over half the bill, and hanging down on both sides as a piece of white flesh, and this is supposed to be connected with the properties as a carrier. The eyes are also surrounded by a similar substance, and importance is attached to its width. Noah seems to have employed one, and they were used by the ancients during sieges. The Turks and all ea tern nations employ them, and in Turkey there are stations from which they pass and fresh birds are forwarded. The Turks train them to different distances progressively, and their flight is only certain while they have eggs or unfledged young. They rise very high before they start, and travel from 25 to 40 miles an hour. Besides this singular return of pigeons, the swallow, and the crow, and cats and dogs, have the same occult faculty.

Sparrows generally have 3 broods in a year.

The song of birds is a movement in succession, equal to a bar of 4 adagio crotchets, performed in 4 seconds.

Of singing birds, the nightingale unites the highest perfection of qualities, the linnet next, then the titlark, the sky-lark, and the wood-lark, the goldfinch and the robin excel in lively notes.

Birds have two larynxes at each extremity of the wind-pipe. That next the lungs is the organ of singing. In some there are windings in the windpipe. Frogs have in their larynx membraneous bags.

In July most singing birds become silent. Those which sing through the winter are chiefly young birds.

In the arrivals of migrating birds, the males arrive several days before the females.

Birds of passage which pass to very distant climes and regions, return to the same localities, and often occupy the same nests, though absent for many months. The swift departs before the 1st of September, chimney and house swallows early in October, and the sand-martin about the middle: the cuckoo in spring precedes the arrival of the sand-martin. The crake, the quail, and the goat-sucker pass the summer in our latitude, but the red-wing, the field fare, the woodcock, the snow-bunting, the silk-tail, the hoopoe, pass the winter with us: it is believed that the swallows, &c. which visit Europe in the summer, pass the winter in Africa, and the birds which pass the winter in this climate, pass the summer in Lapland, Norway, and Iceland.—Their migration can, of course, only be the result of intelligence and habit, in which the older birds direct

young ones from generation to generation. Their flights to and fro are often witnessed in the Mediterranean, but the greatest curiosity of their economy is that of returning to the same localities. Some writers pretend that swallows do not migrate because they find a few at the bottom of ponds, which have been drowned in skimming them to catch flies.

The cuckoo begins to sing, and swallows appear in different parts of Great Britain between the 20th of April and the 10th of May.

Five species of birds of passage enter Spain annually from Africa, and are seen to pass and repass in flocks at certain changes of the season.

I have found by experience, that migrating birds go in a direct line from north to south, and never take their course from east to west, or west to east. *Hasselquist.*

The magpie, the wren, and the long-tailed titmouse, among British birds build domed nests.

The voluntary act of emptying the stomach is possessed by some birds, as the pigeon, who has an organ for secreting milk in its stomach, as Mr. Hunter observed: and it softens the food for its young by previously swallowing it; and afterwards putting its bill into theirs, returns it into their mouths. The pelicans use a throat bag, for the purpose of bringing the fish which they catch in the sea to the shore, and then eject them and eat them at their leisure. I am well informed of a bitch, who, having puppies in a stable at a distance from the house, swallowed the flesh meat which was given her, in large pieces, and going immediately to her whelps, brought it up out of her stomach, and laid it down before them. *Darwin.*

When seamen are thrown upon any of the unknown coasts of America, they never venture upon the fruit of any tree, how tempting soever it may appear, unless they observe that it is marked with the pecking of birds, but fall on without any fear where they have been before them.

Small birds baffle hawks by flying round and above them in great numbers.

Quills are for the most part plucked with great cruelty from living geese, and all persons from convenience, economy, and feeling, ought to prefer metallick pens.

Chickens are hatched by the heat of ovens by the natives of Berme, a village in Egypt. They hire themselves over Egypt for the purpose, and undertake to deliver ⅓ds as many chickens as eggs. The ovens contain from 40 to 80,000 eggs, and there are 400 of them in different parts. Each brood occupies 21 days, and they work their ovens for 6 months, producing altogether 100 millions of chickens in 6 months.

Wild ducks are estimated to fly 90 miles an hour, swallows fly rather faster, and the swift is said to fly above 200 miles in an hour.

Birds which nestle in holes, as wood-peckers, wry-necks, robins, swallows, &c. have eggs of a shining white. Pale green or pale blue characterizes the eggs of the starling, fly-catchers, hedge sparrows, &c. A green colour in those who lay loosely among grass. The nuthatch titmouse and chimney-swallow are party-coloured with a white ground. Others not white, are larks and singing birds.

Modern classification does not rank cetacious animals as fishes, though they live in the sea. They suckle their young, and, therefore, are classed with man, &c. among mammalia. Their hands are large, and they have little or no neck. Their eyes are very small and backward. The tail is horizontal, and they have swimming paws, similar to the fore feet of seals. A single stroke with the tail of a whale will cut a boat in two; and they move in the sea above a mile in a minute. The stomach consists of four or five successive cavities. They live chiefly on other species of fish. The aorta of whales is thirteen inches in diameter. The blow-holes are nostrils at the top of the head to inspire air; and the blow-holes are so contrived as to enable it, at pleasure, to eject the water that enters the mouth. A large whale can form a jet forty feet high. Their structure is as anatomically curious and perfect as that of other mammalia, and they merit the respect and sympathy of man. In general they

are black. Those of Spitzbergen are white. The balænæ, or common whales, are often sixty feet long and thirty round. Instead of teeth they have whalebone plates, with hairy borders hanging from the upper jaw. The females are most affectionate to their young; and when assailed and wounded by the avaricious monsters who frequent these seas, their care of their young ones often draws tears from every eye-witness who is not capable of midnight murder. This class includes—

The common whale and Iceland whale	60 feet
Finned whales	50 feet
Nor-whales	21 feet
Spermaceti whale	60 feet
Dolphins	25 feet
Porpoises	6 feet
Grampusses	20 feet
Beaked whale	24 feet

The great whale is a very harmless animal, and has neither the habits nor the conformation of fishes. They have no teeth and very narrow gullets. Their horizontal tail, and the suckling of their young, bring them within the class of land animals. The barbarous practice of killing them for gain is akin to the traffick in the human species, which, till within these few years, disgraced commerce.

The dugong is a grazing sea animal, which, at the bottom of the sea, feeds on marine plants. It is as large as a cow, and is often seen in shallow water between the tropicks.

Sharks are often so large as to weigh 3 or 4000lbs.; living partly on vegetables, but voracious of every thing, and the terrour of tropical seas.

The delphinus, or dolphin genus of fishes, consists of the dolphin, porpoise, grampus, and leucas, or white fish.

The cod, according to Leuenhoeck, annually spawns nine millions of eggs; the flounder a million; the mackerel half a million; the herring ten thousand; the carp a quarter of a million; the perch more; and the sturgeon six or seven millions. Of the viviparous, the blenny brings forth two or three hundred. The spawn of one genus is mostly devoured by others, and not one egg in a hundred is supposed to be hatched.

There are nineteen species of that half-human inhabitant of the sea called seals. They are even more like men than monkeys are, and live in social communities, and display great sagacity and mutual affection. The females are specially interesting in their duties to the young; and among some species but one male and one female cohabit, while in others polygamy is practised with regular family government. For the sake of oil, man is their merciless destroyer. The smaller species are called sea-calves, and the larger, or ursine, sea-horses. They are often mistaken for the fabulous creature the mermaid.

That *lusus naturæ* the flying fish, has very large pectoral fins. When pursued by the dorados and other fish of prey, it rises into the air on these fins, and flies as long as they continue wet.

Many fish are very long-lived. Carp and pike have been identified for above 200 years. Their respiration is repeated every two or three seconds, and their gills are larger than the surface of their bodies; in this respect resembling the expanded lungs of animals.

The art of sailing is merely an imitation of the nautilus. There are thirty species; some so large that drinking cups are made of their shells. The fish is independent of the shell. In sailing it stretches out two of its arms, which hold up a membrane as a sail; and with two other arms and its tail, rows and steers. The prodigious number and size of those in a fossil state proves that they were at one period more important than they have been since. Man has exerted his power as the universal destroyer.

The monoculus, or crab genus, has fifty species, distinguished into seven sections, as they have one or two eyes or one or more shells.

All flat fish are comprised in the genus *pleuro nutes:* species of which are the flounder, halibut, plaice, sole, turbot, dab, &c. They have their eyes on the right side.

A sea-snake was cast ashore in Orkney, which was fifty-five feet long, and the circumference equal to the girth of an Orkney pony.

The cod-fish, or gadus, which supplies the Catholicks with such luxurious repasts on their *fast*-days and in Lent, abounds in shoals on the coasts and banks of Newfoundland, Cape Breton, and Nova Scotia. They are from 14 to 40 lbs. and larger.

Mackerel, &c. pass the winter in the mud or sand in deep water, and emerge in the spring.

The air-bladder of fish enables them to rise or sink at pleasure; and this power, and that of the fins and tail, gives the largest a speed many times greater than that of any ship.

Aristotle divides shells into three orders, univalves, of one piece, and bivalves, and turbinated; and the same arrangement is still preserved, except that the order is changed by Linnæus, and the turbinated are called multivalves; and he divides them into three genera of multivalves, fourteen of bivalves, and nineteen of univalves. Latreille has since published another arrangement in 153 genera, but not more satisfactory. The best work on British shells is by Donovan. In univalves, in some species, the cavity is divided into chambers, with a pipe of communication; the base is the mouth and opposite is the apex. The convolutions are called whorls. The hinge in bivalves is sometimes furnished with teeth, it is usually joined by a strong ligament. They adhere to rocks by a thread-like substance, called the beard. The forming of collections of these natural trifles is accompanied by the cruel practice of plunging the shell in boiling water to kill the animal; and, in some cases, this has not succeeded, for shells put away as dry have sometimes been found crawling, and after a considerable lapse of time.

The shell of a sea cockle is the circulating medium of Angola and the neighbouring kingdoms. The cockles are caught on the shores of the island Loanda, held by the Portuguese, who, therefore, make the people tributary.

Snails shut in a box with air close themselves in their shells, and live in a dormant state for months or years and revive in water at 72°.

The snail called *helix formatio* is eaten at Rome by the people during Lent, being fattened purposely. When snails attack fruit, they touch no other till that is gone: hence gardeners never remove them. Their eyes are at the end of each horn. Lice are found on their bodies, and worms in their intestines.

A shower of crabs fell with heavy rain, in the summer of 1829, in the yard of the Poor-House at Reigate, and were lively, weighing two ounces.

The bony scale on the back of cuttle fish is used for tooth powder and pounce. This fish squirts a black fluid like ink.

The Persian pearl fishery is carried on at the Bahrin Islands, in the Persian Gulf. The vessels amount to many hundreds, and the pearls weigh from ten to fifty grains.

Oysters differ from muscles in being attached where they grow. They spawn in May, like drops of candle grease in water, which attach and grow for three years. On the coast of Coromandel they are two feet in diameter.

Two polypes cut asunder, and joined at either end, become one; and one species may be turned inside out, and live as before.

Throughout the Australasian seas there is scarcely a league without a coral reef, rock, or island, raised from the bottom of the sea by marine polypi, though the sea itself is fathomless. Some are in deep water, others with a few rocks above the surface. Some in islands, but without vegetation, others with a few weeds on the higher parts, and some covered with large timber, though the sea is unfathomable close to the rock. It appears that the birds settle as soon as the reef rises above the water, and their dung, floating wreck, with seed and cocoa-nuts, lay the foundation of vegetation. Captain Flinders conceives that in due time, the whole of that sea will be united in one extensive continent. The whole of the eastern coast of New Holland is filled with corals. Flinders sailed 500 miles in fourteen days before he could disentangle himself. On landing on a newly formed one, he found wheat-sheafs, mushrooms, stag's horns, cabbage-leaves, and other forms, growing under water. These creations arise from the insects continu-

ally raising a wall to leeward higher and higher, as a shelter from the wind and waves.

There are three celebrated coral fisheries in the Mediterranean, but corals are procured in many seas. The best is procured in submarine caverns. It is enlarged by the insects which generate it, like vegetables. It is ten years in attaining its full height of a foot. There are nine shades of red, and several of white coral. It grows in depths from 60 to 600 feet. In growing it preserves an exact perpendicular direction. In the South Seas the little animal raises the bases of islands of this hard material, carrying it nearly to the surface of the water, forming at first dangerous shoals, which ultimately become fertile islands.

Dracunculi are thin long worms which, in very hot countries, breed and grow in the muscular parts of the body, to the length of four or five yards.

The order mollusca of vermes, are all more or less phosphorescent, a power which enables them to illuminate deep waters.

There are forty species of animal anemones or actiniæ. They are beautiful in structure and wonderful in their economy. They are of a cylindrical figure, or pear or funnel-shaped, but often like a marigold or rose. They are found firmly fixed on the rocks washed by the sea. They swell or contract at pleasure. They devour fish, crabs, &c. as well as flesh. They spread their numerous arms, or tentacula, and if one seizes any prey, the rest unite in securing it, and carrying it to the mouth. They are hermaphrodite, and cast their young from their mouth; and they often divide and become two animals; and so if cut into several parts, which, if torn away, the very shreds become perfect actiniæ. They cannot live in fresh water. They have sensitive feelings, shrink in case of danger, and enjoy the light, but no eyes have been traced. They can detach themselves to float in the sea.

Sponges are believed to consist of excitable flesh, full of small mouths, by which they absorb and eject water.

The phosphorick light seen in the ocean is caused by innumerable quantities of phosphorick insects, and is sometimes so intense as to make the waves appear like red-hot balls.

There are two classes of animalculæ, seventeen genera, and 378 species. The first class, of ten genera, consists of worms in various forms. The second are worm-like, with additions; and most of them are visible only with the microscope.

They are produced by mixture of various substances in fluids; and by some supposed to be spontaneous, while others have referred their origin to various causes.

Hempseed, rice, lentils, peas, pepper, beet-root, blighted corn, &c. all yield various kinds on being macerated in water; and however much boiled, the smaller kinds appear. Vinegar, too, produces eels, and all animal substances in putrescence display them. There are none in fresh rain water or pure spring water. Sea water, when used for the solution, produces them in swarms.

The itch, according to Willan, is caused by an insect, white, with eight reddish legs, to the four hind ones of which is appended a bristle. It may be distinguished with the microscope in the vesicles in the joints, which accompany the disorder. On the same authority we learn that most of the diseases of the skin are occasioned by other insects.

Lewenhoeck saw hundreds of animalculæ in the space of a grain of sand, and he says ten thousand, but it is now suspected that he saw the ultimate motions of the atoms of gas and not organized beings. A drop of water contains hundreds, all in extreme activity, swimming or crawling with freedom and purpose. They appear to subsist on the atoms of the infusion, and some prey on others. Some have the form of flying dragons with all their parts, others are like polype, some like worms, others with many legs like insects, while others have machinery of wheels which turn, create vortexes, and apparently enable them to collect food. Some are like plants, with branches each terminated with an animalcule, and the trunk and branches alternately draw in and spread. Others are like hydatids, and have their ge

nerations in the skin. And all appear to be hermaphrodites.

Many animalculæ have the power of resurrection, and after being dry grains for years, revive again on being put in a drop of water, and this may be repeated 10 or 12 times, if they are kept in sand, however dry.

They abound as a sort of tadpoles in the semen of all male animals, from man to the smallest insect.

The foul matter of dirty teeth abound in a sort of eels. Diseases of the skin are generally occasioned by them, or they accompany such morbid parts in various forms.

The little animal which makes rapid circles on water is the gyrinus or water flea. When disturbed they dart into the water.

Animalcules are not to be found in all fluids. None are to be found in wines, or any other fermented liquor which has not passed into the state of vinegar, or which has not become completely vapid, neither are they to be found in distilled or spring water. About three hundred of these minute animals are described by naturalists, and arranged in fifteen genera, or families. The principal one is called vorticella, from the mouth being surrounded by numerous short feelers, forming a kind of fringe round the head; and by the motion of these feelers they form an eddy or vortex in the water, which draws their prey into their mouths. The wheel animal has, also, the very extraordinary property of reviving after it has been left dry for some months on a glass.

If paste made with flour and water is suffered to go sour, without becoming mouldy, the surface will soon be found covered with an infinite number of minute living beings, which, from their general similarity to that animal, have been called eels. The same animals, or as some authors think, a different species, is found in bad vinegar, and other mild acids. These animals are viviparous, and their increase is astonishing, but a hundred or more have been seen to issue from one single eel.

The volvox globator, or globe animal, is one of the most curious as well as one of the most beautiful of the animalcules; it is found in the clearer kinds of stagnant waters, and often equals the size of a pin's head. Its general colour is green, but it is sometimes of a pale orange; its motions are irregular in all directions, and at the same time rolling or spinning as if on an axis. When microscopically examined, it presents one of the most curious phenomena in natural history, being always pregnant with several smaller animals of its own kind, and these with others still smaller.

Cheese mites are found not only in cheese, but in preserves, meal, dried flesh, and other articles of domestick consumption; they have as regular a figure, and perform all the functions of life, as creatures that exceed them many times in bulk; they have a sharp snout, and a mouth that opens and shuts like a mole's; they are so extremely quick-sighted, that when they have been once touched with a pin, they avoid a second touch. The various parts of the body are covered with long hairs, and even these hairs are bristly. From the eggs of the females the young are hatched in twelve or fourteen days, and are so small that ninety millions are not so large as a pigeon's egg. Their manner of feeding is by thrusting alternately one jaw forward and the other backward, and in this manner grinding their food, and after they have done feeding they seem to chew the cud.

The wings of insects afford an immense variety of interesting and beautiful objects. Some are covered with scales, as in the butterfly tribe. Some are adorned with fringes of feathers, and the ribs or veins are also feathered, as in many of the gnat family, and even these scales and feathers are ribbed and fluted in a variety of ways. The earwig is not generally known to have wings, from their being folded up on the back into so small a compass. In size wings differ as much as in every other particular, some are so minute as to be scarcely perceptible, and others are several inches in length. The elytra, or wing-cases, of many insects are beautifully transparent objects, such as those of the boat-fly, the grasshopper tribe, and many of the minute cicadæ, or frog-hoppers, &c.

The greater part of the head of most flies is taken up by two protu-

berances, which on minute examination with a common magnifier seem to be reticulated, or similar to net work. These are the animals' eyes, and consist of an immense number of convex lenses. In the libellula, or dragon-fly, there have been counted upwards of 25,000 of a hexagonal figure and a brilliant polish. The eyes of crabs and lobsters, and all that family, consist of lenses of a square form.

In digging ponds in the interiour of countries it is found that in some countries they soon abound in various fish. The soil having been under the sea in remote ages the spawn may exist in the sand, the fish being vivified by the access of water just as the germs of animalculæ are revived by water in the vegetable substances infused; and into which they may have been conveyed by the circulation of the plant.

The instincts of animals are their habits and practices resulting from their varied forms and natural powers. They fly, swim, crawl, run, &c. and eat and locate agreeably to their respective experienced convenience, and the young universally follow the habits of their parents, and education becomes their nature generating peculiarities in each kind. They thus replenish the earth, promote its intense fertility, and become useful and necessary parts of a general circle of organick life.

All animals display varied and strong intelligence, but we notice most those acts which resemble our own. Thus, the species of the motacilly, called the tailor-bird, astonishes by sewing two leaves together with vegetable fibres as with a needle and thread, for its nest. The nightingale, wren, robin, &c. are other species.

All animals derive their heat and nervous power from the chymical combination of the oxygen in the air with antagonist elements in the lungs or parts equivalent; and their power of locomotion from reacting by their muscles against the earth, water, or air.

Reproduction is also evidenced in the growth of trees from slips and cuttings, of polype and worms from mall fragments, and of the renewal of the claws of crabs and lobsters with all their nerves and parts in perfection.

The power of reproduction in insects is one of the most wonderful parts of their economy. On beheading a slug, a new head with all its complex appurtenances will grow again; so will the feet of a Salamander and the claws of lobsters. The end of a worm split produces two perfect heads, and if cut into three pieces the middle reproduces a perfect head and tail.

The periods of gestation are the same in the horse and ass, or eleven months each. In the camel twelve months. In the elephant two years and in the lion but five months: in the dog and cat two months: in the cow nine months, and in sheep five months. The hen sits 21 days, the goose 30, and the duck 30.

In 1813, a boa constrictor was killed in the isle of France, 14 feet 6 inches long; in his stomach were found several animals, as monkeys, &c. half digested.

There are 81 species of lacerta or lizard, of which the crocodile, the alligator, and guana are the chief. Those in England are very inoffensive, timid creatures, and one species is the water newt, three or four inches long.

Twelve species of crocodiles have been distinguished, four of which are called alligators and two gavials. Those of the Nile are the largest, but they are now very uncommon; at least in lower Egypt where a crocodile would be regarded as a great curiosity. Their form is that of a lizard, sometimes thirty feet long, and nine or ten feet round. The body is covered with scales, hard enough to turn a musket ball; with a mouth several feet long, filled with teeth like a saw. They pursue their prey with agility, but cannot turn, and, therefore, are easily escaped; but whatever is once caught is held fast, and if large drowned. They roar like a bull, and in winter are said to be torpid. The females lay from thirty to one hundred eggs in a season, but they are destroyed by the ichneumon; and some species of tortoise destroys their young. They are so tenacious of life that it is very

difficult to kill them. If well fed they become tame; and Labat, an African traveller, asserts that they are seen in villages without dread, and even played with by children. Their usual ferocity being ascribed solely to hunger. The excrements are vomited up and the crocodile is obliged to come on shore as often as he has occasion to ease himself.

The testudo or tortoise is so long lived that two are recorded in England who lived 120 and 200 years, They know their friends and display much intelligence. The turtle of this genus is very large and subject to great cruelties to satisfy the whim of epicures.

There are ten species of scorpions, mostly venomous, and some large.

There are 36 species of the rana or frog genus, including toads, the whole being innoxious, while the common toad is curious from its longevity when enclosed in hollows of trees, and stones, and the Surinam toad from its producing its young from cells in its back. The American bull-frog 18 inches long, is so called from the frightful noise it makes in the woods.

The progressive motion of serpents is effected by raising the body into arches, and fixing their hinder scales into the ground, and in this way they move backward and forward, the ribs concurring with an active motion. They mostly swallow their food entire. The heart possesses two auricles and one venticle, and they all breathe. Hogs and goats kill and devour them. They live on land or in water either salt or fresh. The boa constrictor is from twenty to thirty-six feet long and is capable of swallowing deer, calves, or men whole, first crushing the bones by the strength of its folds; it usually catches its prey by hanging from the branch of a tree near the places where animals go for water, and its destructive powers are as above, for it has no poison fangs. The colubre is from thirty to forty feet. The ringed or spotted snake found on dung hills in England is perfectly harmless, as are others, except one, and most of them may be tamed. The rattle-snake is from 5 to 8 feet long, but does not attack, and gives warning by the noise of rattling its tail. Eleven genera of serpents have no poison fangs and 19 have, but compared with the others they are very few in number. The chief of them are the rattle-snake, the crotalus of Carolina, one genus in Madagascar, another in Martinique, the naja of India and South America, the black adder of Sweden, and the viper or adder found in England and other European countries, which is about two feet long, the colour gray, with a chain of irregular spots on the back.

ANATOMY AND PHYSIOLOGY OF MAN.

The genus man is divisible, according to colour, into four species; the white, the copper-coloured, the tawny, and the black. The whites are sanguine or reddish, dead white, and dark. The tawny are brown and dark brown, as the Arabs, Jews, Hindoos, Persians, &c. The dark brown are the Calmuck Tartars, Chinese, and Gipsies. The copper-coloured are the native Americans. Other dark brown are the Malays and South Sea Islanders. The blacks are Negroes, with woolly hair, and Caffres, &c. with straight hair.

The body consists of brain and nerves for sensation, muscles for motion, bones for strength, glands for secretion, arteries and veins for circulation, lacteals and lymphaticks for absorption, and lungs for heat and vital energy.

Anatomy is the knowledge of the mechanical structure of the parts of the body. *Physiology* treats of the powers by which they produce their results in the living body. *Pathology* treats of diseases and their symptoms, the classification of which is called *Nosology*. *Therapeutics* treat of cure, and medicines to be applied, and includes the *Materia Medica*. *Pharmacy* is the art of compounding medicines, and *Posology* determines the doses.

The human body consists of—
240 bones,
9 kinds of articulations or joinings,
100 cartilages and ligaments,
400 muscles and tendons,
100 nerves;

besides blood, arteries, veins, glands, stomach, intestines, lungs, heart, liver, kidneys, lymphaticks, lacteals, and three skins, the epidermis, the rete mucossum, and the true skin, beneath which is the tela cellulosa, distributed through the system, and surrounding every muscle and fibre, every artery, vein, nerve, and lymphatick.

The circulatory system consists of the heart and arteries, and of the veins and lungs. The compression, or systole of the left auricle, forces the red blood into the arteries; it is then brought back purple by the veins to the right auricle, compressed by it through the lungs, and reddened and vivified, is passed by the pulmonary veins to the left auricle, which expels it again through the system. Such is the economy of all animals, the greatest and the smallest, the most egotistical and most despised.

The vivification of the blood appears to arise from its chymical combination with oxygen, which thereby parting with its previous motion, that motion received by the blood is animal heat and the power and energy of the system, or the principle and cause of vitality. The arteries distribute universally, and the distinct veins absorb universally, taking up the nitrogen of the air at the skin, and the carbon of the system. Hence the chymical combinations in the lungs, expiration of carbonick acid gas, and the restoration of the excitable powers of the blood. Vital action in animals is simular to combustion, except that owing to the fluids, ignition does not take place.

The stomach converts food into a pulp called *chyme*, and passing into the intestines, *bile* converts it into a milky substance called *chyle*, in which state the lacteal absorbents convey it to the blood near the heart, through which it passes to the lungs and becomes blood.

There are 41 arteries or great branches which have received names The *pulmonary* proceeds from the right ventricle of the contracting heart to the air-cells of the lungs. The *aorta* from the left ventricle through the system, and after rising to the first rib, crosses in an arch the thorax and belly, and divides into two. Others are branches of these. The arteries felt behind the wind-pipe are the carotid: the artery which runs over the jaw bone, and its branches which supply the lips and face, is the facial or labial artery and a branch of the carotid. The artery felt at the temples is a seventh branch of the carotid, and called the temporal artery. The artery which passes inside of the arm is called humeral.

Bones are composed of gelatinous fibres in net work, and of earthy salts, as phosphate, carbonate, and sulphate of lime. The gelatine prevails in young animals, and hence their bones are more flexible. In the fœtus the bones are gristly, and ossification commences at their centres. Bones have blood vessels.

The bones in the head consist of—

1. Frontal or coronal.
2. Parietal.
3. Temporal.
4. Occepital.
5. Sphenoid.
6. Ethmoid.
7. Nasal.
8. Ungual.
9. Cheek.
10. Upper jaw.
11. Palate.
12. Spongy or nostril.
13. Vomer or nasal.
14. Lower jaw.

There are three sutures, the coronal, the sagittal, and the lamboidal.

The head has 77 muscles.

8 for the eyes and eye-lids
1 for the nose.
8 for the lips.
8 for the jaw.
11 for the tongue.
11 for the larynx.
11 for the ear.
17 for motions of the head and neck.
1 to move the hairy scalp, and another the eye-brows.

The muscles of the human jaw exert a force of 534 lbs. and those of mastiffs, wolves, &c. far more. The force is produced by the swelling of the muscles in the middle, and dilating again. The entire muscular system to the ground concurring by the vigorous reaction called health. Those muscles which perform involuntary motions receive nerves from the spinal marrow and cere-

brum, and those voluntary from the cerebellum.

New born infants are twenty-one inches long, and weigh from 10 to 15 lbs.

The four front teeth in each jaw come first in eight or ten months; the four canine or eye teeth in ten months; the sixteen grinders from twelve to fourteen months. At twenty-two or twenty-four years, four other grinders come, making thirty-six.

Absorbents which convey chyle to the thoracick duct are called lacteals; and those which collect other fluids in the system, and convey them to the same duct arecalled lymphaticks. The lacteals, lymphaticks, and their glands, the mesenterick glands, and the thoracick duct, are the absorbent system. The fluids taken up by the lymphaticks are prepared by the lymphatick glands; and the chyle is prepared by the mysenterick gland, before either pass into the thoracick duct, situated on the right side, near the first vertebræ of the loins. It ascends to the left side of the neck, and enters the venous system at an angle formed by the subclavian and jugular veins, in the passage of the venous blood to the lungs.

The chest, filled by the lungs, extends from the neck to the pit of the stomach, and is lined with the pleura, a firm fibrous membrane. The lungs are large spongy substances; and the right lung is divided into three lobes, or divisions, and the left into two. They are of lighter colour in youth than age, glossy and elastick. They join the windpipe, heart, and spine, but in other parts are free. They are composed of cells, of innumerable ramifications of blood-vessels in the cells, for exposure to the inspired air, and of nerves and lymphaticks.

The wind-pipe is composed of sixteen or eighteen cartilaginous rings, about the twelfth of an inch broad, and joined by elastic ligaments.

The diaphragm, whose action compresses or dilates the lungs, and on which they rest, is a fleshy partition which divides the chest from the belly. It is arched towards the lungs, but flattens during a strong inspiration, and rises during a strong expiration. The dilating muscles are four, with ten auxiliary, and the contracting are six, with four auxiliary.

The larynx, or organ of voice, is a cavity composed of moveable pieces, twice as large in men as women. Its five cartilages are moved by eight pair of muscles, and fifteen other pairs are connected with its varied powers.

The small intestines are four or five times longer than the whole body of the body to which they belong.

The spleen, of which the use has not been discovered, is found in all vertebral animals. It is always near the stomach, and near the first in those that have several.

The gall-bladder in the human subject is in the shape of a pear, and the size of a hen's egg. It lies on the concave side of the liver. It sometimes forms calculus secretions, which, in passing to the duodenum create great pain and danger.

The diaphragm is the membrane which divides the thorax from the abdomen.

The diastole is the expansion of the heart, &c.; and the systole is its contraction.

The skeleton of a man weighs from 12 to 16 lbs. and the blood 27 or 28 lbs.

In monstrous births without brains, the functions of vitality proceed.

A female skeleton of the same age is smaller than a male. The head, hands, and feet are smaller, the neck longer, the pelvis wider and deeper, and the prominences less.

The specifick gravity of blood is from 1085 to 1126, and its temperature is from 97° to 102°.

The human figure is equal to ten faces. One-third from the crown to the forehead; one to the chin; to the pit of the collar bones two-thirds; from the pit to bottom of the breast one; from the bottom of the breast to the navel one; from thence to the privates one; to the knee two; the knee half; from the lower part of the knee to the ancle two; and to the sole half:—in all ten. When the arms are extended, the distance of the tips of the longest fingers are equal to the height. From one side of the breast to the other is two

faces; from the shoulder to the elbow two; from this to the root of the little finger two. The sole of the foot is a sixth of the height. The thumb equal to the nose. The teats and pit between the collar-bones of a woman is an equilateral triangle. The length of the face and hands is equal. Such are the proportions of painters and sculptors in perfect figures.

The facial angle is the horizontal angle formed by a line, parallel to the bottom of the nose, with another line from the level of the upper jaw to the ridge of the frontal bone. It is

In Europeans	from 75 to 85°
In American Indians	73½
In Africans	70
In ourang outangs	65
In monkeys	57
In dogs	40
In sheep	30
In a horse	23

The number of teeth at maturity is thirty-two, or sixteen in each jaw. The eight front ones are called cutting teeth; and the two next on each side are called dog or eye teeth. The two next are two pointed teeth; and the three next on each side are called molares, or grinders. The two last are called wisdom teeth, as they are cut last.

Teeth are phosphate of lime and cartilage, but the enamel is without cartilage.

The teeth of an adult have a specifick gravity of 2.27; and those of children 2.08.

The brain, under the skull, is invested with the dura mater, a membrane with arteries.

Within the *dura mater*, and adhering to the brain is the *pia mater*, a very fine transparent membrane, filled with blood-vessels; but a finer membrane lies above this, called membrana arachnoidea.

The brain is called the *encephalon*. Its portions are the *cerebrum*, which occupies the top and front of the skull; the *cerebellum*, which rests on the base of the skull behind, and separated from the cerebrum by a fold of the *dura mater*; and the *medulla oblongata*, or commencement of the spinal marrow, which projects upward into the centre of the encephalon.

The whole is composed of soft pulpy matter, in various convolution and prominences.

The cerebrum has three lobes, or round parts; the middle called the corpus callosum: and it consists of two kinds of matter, the outside reddish-gray, and the middle bluish-white, and softer.

The cerebellum has two lobes, and is of firmer consistence than the cerebrum.

The medulla oblongata lies between the lobes of the cerebellum and the middle lobe of the cerebrum, from which it is separated by a streaked medullary part, called the pons varolii.

The *spinal marrow* is a continuation of the *medulla oblongata*, which, unlike the *cerebrum*, has the bluish-white outside and the reddish-gray inside. It is divided down the middle, and enclosed by the pia and dura mater.

The four are considered as the common sensorium. The cerebrum being the organ of sensation; the cerebellum of the will, and the medulla oblongata and spinal marrow extending their functions to the system. The weight is nearly four pounds in a male adult, and in the female not so much.

A tenth part of the whole mass of blood is continually in the encephalon.

From various parts of the encephalon, and from the spinal marrow, pass white medullary chords in parallel waving threads, and invested at first with the dura mater, and then with a cellular membrane. They run in pairs; and one is for sense, the other for motion, when both objects are to be effected. They often unite in a knotty cluster, called *ganglions*, which send out more fibres; and some different nerves, unite in network, called *plexus*.

Nine pairs proceed from the encephalon, and thirty from the spinal marrow.

Modern physiologists divide the vital powers into muscular contractility, nervous agency, sensorial power, and organick affinities. The origin of these modes of excitement appears to be the power which is derived by the lungs from the energy of the atmosphere; which energy is

transferred by them to the blood and to the system. The gas respired consists essentially of atoms in circular motion; by chymical union a portion of these part with their motion in the lungs, and those motions are transferred to the system.

The prime agent in animal systems is described to be the cellular tissue, or membranes, which extend through every part of the body, under various names and functions. It constitutes what is called tone, and vigour in the system, which depend on the facility of its contractions.

The cause of muscular contractility has produced numerous theories, with which anatomists have not mingled animal experience, but have regarded the power of muscles as powers *per se*. Nervous agency has also produced numerous theories, the nerves being considered as separate from the general identity of the animal. Sensorial power has also been examined as a property of the substances, and not as a result merely personal.

The most important discovery relative to the nerves has been lately made by Mr. Charles Bell, who proves that nerves are not single, but that the combination possesses different powers; two filaments being united for convenience of distribution, while their office and their origin are distinct. The tongue, for example, has nervous papillæ for taste, and others for feeling; one sort communicate pain or feeling, and the other the sense of taste. Mr. Bell shows that the nerves which proceed from the front and back of the spinal marrow have totally different functions, though they spread through the system in pairs and in contact. Those which issue from the posterior part might be cut without convulsing the muscles; but the mere touching those from the anterior part produces convulsions. One set he finds to perform the functions of sensation and the will, exquisitely sensible and universally diffused; the other set are connected with the functions of respiration, circulation, secretion, and muscular motion.

The brain itself appears to have distinct functions like the nerves; the chief part of it may be cut away or removed without affecting the power of voluntary motion or giving pain, and this part is considered as the *cerebrum*, which appears to be the organ of sensation; the animal, on its being removed, losing its powers of sensation: while, if the cerebellum or posterior part, is removed, the animal loses the power of voluntary motion. The organ of feeling in this analysis appears to be the *medulla oblongata*, and adjoining part of the spinal marrow.

These facts being established by various experiments on living animals, often exceedingly cruel, it may be hoped that they will not be repeated from motives of wanton curiosity.

In less complicated animals, Mr. Bell found the nerves for different purposes more decidedly distinct than in the higher classes.

In the fœtus, the first part of the nervous system that is formed is the spinal marrow; the upper part of which is enlarged, and the brain succeeds. The sensorial powers are not developed till the frame-work of the body is matured; and their continuance depends on the perfect co-operation of the circulating system.

Gall considers the brain as a collection of distinct organs, the form and expansion of which distinguish the intellectual powers and predominating passions of individuals. Its functions are three—organick, sensitive, and intellectual; to each of these purposes he assigns a particular organ. He divides the parts of the encephalon into twenty-seven organs, in three classes; those of organick life one; those of sensation and perception; and those which relate to reasoning and intellectual energy, on the vertex and smooth part of the forehead, which expands as animals advance in intellect.

In cases where the brain has been removed, there has been no production of heat from respiration artificially kept up.—*Brodie.*

When the nerves to any gland are injured or divided, the secretion of the gland is modified in quantity or quality.—*Home.*

Nine pair of nerves issue from the brain, and the other thirty-one from the spinal marrow. The nervous system has an intelligence: which

has been considered analogous to the web of a spider, or the net of a fisherman.

A healthy liver weighs nearly 4 lbs. but diseased ones become four or five times heavier.

The number of ribs vary, being twelve or thirteen on a side.

In ordinary respiration, 16 or 17 cubick inches of atmospherick air pass into the lungs 20 times in a minute, or a cubick foot every 5.25 minutes; 274 cubick feet in 24 hours, or a cube of 6½ feet each way. The lungs hold 280, and at each expiration 1.375 of the oxygen is converted into carbonick acid gas; in 63 minutes a cubick foot, and nearly 23 feet in 24 hours. The loss in bulk, per respiration, is but .006 or 0.12 per minute, or only the tenth of a foot in 24 hours. The nitrogen inspired and expired is exactly equal. If then the relative specifick heat or atomick motion of oxygen, and carbonick acid, as the mean of Crawford and Dalton be taken as 3.65 to 1; and the absolute heat of a cubick foot of oxygen, as 876°; the difference between inspired oxygen and expired carbonick acid is 688° for every foot in 63 minutes, 0.53° per respiration, or 688° × 23 = 15824° + 87.6°, or 15911.6° in all, for heat and strength in ordinary respiration per day.

Vegetable aliments are gum, jelly, starch, gluten, oil, sugar, and acids.

Animal aliments are *gelatine*, or jelly, *albumen* as the white of an egg, *fibrine* or muscular fibres, and *fat*, also *blood* and *milk*.

Puberty in northern climates commences from 15 to 20, but in India and Arabia from 11 to 14. Age in the former from 45 to 70, and in the latter from 30 to 45.

Contracting muscles are called *flexor* muscles; expanding muscles *extensor*; the pair *antagonists*.

Lime combined with phosphorick acid is the basis of bones, and found also in the fluids. Shells consist of carbonate of lime; and hence their remains have been considered as the basis of lime-stone mountains. Silica and manganese are found in the hair. Iron, with phosphorick acid, constitutes part of the blood.

The fluids of animals contain alkalies, especially soda.

The specifick gravity of red arterial blood is one-twentieth greater than water. The *serum*, or whey part, is but one-fortieth heavier than water; but the cruor, or coagulated part, is one-fourth heavier than water. The serum coagulates in water nearly boiling; and consists of gelatine, soda, phosphate of lime, and ammonia. The cruor contains subphosphate of iron, and some soda and albumen.

Venous blood is dark or crimson; but restored to its red colour by passing through the lungs.

The heart, by its muscular contraction, distributes two ounces of blood from seventy to eighty times in a minute.

The spinal cord is formed in the fœtus before the brain, and animals are perfect as it is perfect.

The sense of feeling is created by the papillæ of the skin, consisting of small white nervous fibres, which erect themselves when the sense of touch is excited.

The sense of taste by the tongue and palate, by means of nervous papillæ.

The sense of smell is in the nerves of the pituitary or mucous membrane.

The sense of hearing is effected by a mechanism which conveys the vibrations to the internal parts, where nervous fibres are distributed. The drum of the ear is called the *membrana tympanum;* and its vibrations are conveyed to four bones in the internal cavity, which again propagate the vibration to a double spiral cavity, called the *cochlea*.

The eye is an optical instrument. The outer coat is the *sclerotick* membrane. The fore part is the *cornea*, made up of concentrick layers. Between this and the former lies the white of the eye, covered by the *membrana conjunctiva*, that lines the outside of the eye-lids.

Within the sclerotica, and concentrick with it, is the *choroid* membrane. At the back part it is perforated by the optick nerve, where it forms the *retina*, which covers the choroid.

About three-fourths of the globe are filled with the vitreous humour, like the white of an egg. In front is

the crystalline lens, convex on each side, but more so inward. It is composed of transparent laminæ, more dense towards the centre. The front is filled with the aqueous humour, in the middle of which floats the iris, or coloured membrane. The specifick gravity of the humours is but a 200th more than water; but the lens one-thirteenth more than water. They consist of water and albumen and gelatine. The iris is supplied with blood-vessels and nerves, and is very irritable, contracting and dilating to the light, and appearing to be governed by the retina.

Between the ball of the eye and the vault of the orbit lies the lacrymal gland which secretes tears, and consists of two lobes with several small canals.

The blind youth who was couched by Chesselden in his thirteenth year, thought scarlet the most beautiful of all colours; but black was painful. He fancied every object touched him. He could not distinguish, by sight, objects which he knew by feeling; and was some time learning to distinguish, by his new sense, between the cat and the dog. Those things which he had liked best, were not equally agreeable to his sight; and he had to learn by sight the name of every thing he saw, constantly forgetting and mistaking one thing for another. Pictures he considered as party-coloured surfaces, and he had no idea of the effect of light and shade; a miniature portrait much astonished him, it seemed like putting a bushel into a pint. He could not conceive how the house could look bigger than the room. He said every new object was a new delight. An extensive prospect he called a new kind of seeing. When his second eye was couched, he said he thought objects did not appear so large to this eye as they did at first to the other; and on viewing the same object with both eyes, he said they appeared twice as large. He and others, whom Mr. Chisselden operated upon, described it as learning to see; and, at first, had great difficulty in directing their eyes to an object.

Sir Everard Home couched some young persons with results exactly similar to those of Chesselden. They could not tell the name of any object till they were told what it was, or till they felt it, and had no idea of distances. The blind, however, make up for defect of sight, by the accuracy and sensibility of their touch, and by habits of association between the touch, memory, and judgment. Stanley, the organist, and many blind musicians, have been the best performers of their time; and the blind discriminate sounds at a distance with infinitely greater precision than persons who depend on their visual organs. Miss Chambers, a schoolmistress at Nottingham, could discern that two boys were playing in a distant part of the room instead of studying their books, though a person who saw them, and made no use of his ears, could not perceive that they made the smallest noise: and in this way she kept a most orderly school: so professor Sanderson could, in a few moments, tell how many persons were in a mixed company, and presently discriminate their sexes by the mere rustling of their clothes. Stanley, and other blind persons, played at cards by delicately pricking them with a pin. A French lady could dance in figure dances, sew tambour, and thread her needle. The ear too, guides as to distance, by reflection of sound, and within these few years a blind man, from his infancy, was a surveyor and planner of roads in Derbyshire. When a sense is wanted, the other senses are cultivated with care.

The colour of the skin depends on the colour of the rete mucosum, a soft gelatinous cellular substance, which lies between the cuticle or scarf skin and the cutis or real skin. In blacks this membrane contains a black fluid. The blood of blacks and whites is the same colour, and the darkening of the rete mucosum is ascribed by Blumenbach to carbon and to the increase of bilious secretions in hot climates.

There is iron enough in the blood of 42 men to make a plough share weighing about 24 pounds.

A man is taller in the morning than at night to the extent of half an inch or more, owing to the relaxation of the cartilages.

The human brain is the 28th of the body but in the horse but a 400th.

The lungs, owing to the continued local accession of fresh cold air, are the coldest part of the body, and the degrees of heat which they generate is successively carried away by the blood.

The non-naturals are air, food, and drink, sleep, and watching, motion, and rest, the passions, and the secretions and excretions.

Food is converted in the stomach into a pulpy mass called chyme. It then passes into the pylorus and duodenum and is converted into chyle, which is taken up by the lacteals, while the mass is passing the intestines, and the excrementitious parts pass through the colon and rectum.

The Englishman's skull averages 7 inches in diameter, and the female 6¾. Yorkshire, &c. averages 7¼; and Scotland 7¾.

It has been computed that nearly two year's sickness is experienced by every person before he is 70 years old, and therefore that ten days per annum is the average sickness of human life. Till forty it is but half, and after fifty it rapidly increases.

Endemick diseases are those of districts; epidemicks are those of seasons or particular times.

So great, says Dr. Currie, are the difficulties of tracing out the hidden causes of the disorders to which this frame of ours is subject, that the most candid of the profession have allowed and lamented how unavoidably they are in the dark, so that the best medicines, administered with the wisest heads, shall often do the mischief they intend to prevent.

f there be any universal medicine in nature it is water; for by its assistance all distempers are alleviated or cured, and the body preserved sound and free from corruption, that enemy to life.—*Hoffman.*

Dr. Young divides the remedies of the materia medica into four classes; mechanical agents, chymical agents, vital agents, and insensible agents:

1. Air, diet, habits, passions, &c.
2. Causticks, astringents, &c.
3. Excitants, catharticks, &c.
4. Specificks.

A *dispensary* supplies medicine for the poor on application, and superintends the effects at their own houses. A *hospital* receives them as patients, and provides for them as long as medicine can relieve them, and advises in case of personal application as out-patients. An *infirmary* unites the objects of both. But there are NO PUBLIC ASYLUMS for convalescence and virtuous old age.

Vegetable poisons are numerous, the *acrid* are briony root, bitter apple, hellebore, spurge, wolfsbane, meadow, anemone, narcissus, and ranunculus. The *narcotick*, as hemlock, henbane, laurel, opium, stramonium, tobacco, coculus indicus, foxglove, nux vomica or ratsbane, meadow saffron, elaterium, fool's parsley, and fungi. The mineral poisons are arsenick, corrosive sublimate, oxalick acid, sulphurick acid, nitrick acid or aquafortis, verdigris, white vitriol, and white lead. Among the gases, carbonick acid, nitrogen, hydrogen, chlorine, &c.

Diseases of cattle often afflict men who subsist on them. In 1515 and 1578, nearly all the sheep in France perished by a disease resembling the small pox; and in 1599 the Venetian government to stop a fatal disease among the people, prohibited the sale of meat, butter, or cheese on pain of death. The murrain of cattle has a bubo like the plague, and from 1705 to 1714 it spread among cattle, sheep, and horses all over Europe, 5857 dying in Middlesex, Essex, and Surrey; and Europe lost one million and a half. It affected men who ate the flesh, according to Sauvages, destroying at Nismes the tongue in 24 hours, and Paris was similarly afflicted in 1576. From 1740 to 1750 the cattle, &c. were attacked by disease like the small pox in all parts of Europe, and it was considered as a cause of spreading that disease among the eaters. 300000 died in the Papal states only. Inoculation was tried, and the vaccine pox is considered as a mild species. In 1764, horses, cattle, sheep, dogs, poultry, &c. died in thousands all over Europe. In Holland only 208354.

Vegetables poisonous to man, prove innoxious to other animals, while some which men eat with impunity are fatal to some animals. Parsley kills parrots: prussick acid and bitter almonds, kill dogs and

some birds: opium and arsenick have a diminished effect on dogs.

The poison so freely administered by Italians in the 17th century was called aqua tofana, from the name of the old woman Tofania, who made and sold it in small flat vials which she called manna of St. Nicholas, on one side of which was an image of the saint; she carried on this traffick for half a century and eluded the police, but on being taken, confessed that she had been a party in poisoning 600 people. Numerous persons were implicated by her of all ranks, and many of them were publickly executed. All Italy was thrown into a ferment, and many fled, while some persons of distinction, on conviction, were strangled in prison. It appeared to have been chiefly used by married women who were tired of their husbands. Four or six drops were a fatal dose, but the effect was not sudden and therefore not suspected. It was as clear as water, but the chymists have not agreed about its real composition. A proclamation of the Pope described it as aquafortis distilled into arsenick, and others considered it as a solution of crystallized arsenick. The secret of its preparation was conveyed to Paris where the Marchioness de Brinvaliers poisoned her father and two brothers, and she with many others were executed, and the preparers burnt alive.

The Brunonian system takes its name from Dr. John Brown of Edinburgh, who was born 1736 and died of apoplexy in 1788. He maintained, that disease was chiefly occasioned by debility for want of due excitement; he therefore maintained the utility of increased stimulants, and thus by pampering the appetite and countenancing gluttony, his system for a time was very fashionable.

The mixed and fanciful diet of man is considered as the cause of numerous diseases, from which animals are exempt. Many diseases have abated with changes of national diet, and others are virulent in particular countries, arising from peculiarities. The Hindoos are considered the freest from disease of any part of the human race. The labourers on the African coast, who go from tribe to tribe to perform the manual labour, and whose strength is wonderful, live entirely on plain rice. The Irish, Swiss, and Gascons, the slaves of Europe, feed also on the simplest diet, the former chiefly on potatoes.

Cannabalism has existed among all savage nations. St. Jerome says some British tribes ate human flesh; and the Scots from Galloway killed and ate the English in the reign of Henry I. The Scythians were drinkers of human blood. Columbus found cannibals in America. The aborigines of the Caribbee Islands were cannibals; and some South American tribes, and most of the natives of the South Sea Islands, make it an open practice to eat human flesh: while in some African cities it is openly sold by the pound.

Persons apparently drowned, or in whom animation is suspended, should be laid in warm blankets, with the head raised, and hot bricks, or bottles of hot water, applied to the soles of the feet, hands, stomach, and armpits; the body and limbs being well rubbed with the hands or warm flannels. The lungs should be inflated by blowing into one nostril, while the other and the mouth are stopt, and action given to the stomach as in breathing; and this should be continued first through one nostril, and then through the other, till animation reappears. A clyster made of salt and some mustard, with warm water, should be administered. Hartshorn or salts may also be applied now and then to the nostrils. On recovery some weak cordial should be given, and the person put into a warm bed. In cases of strangulation or apoplexy, bleeding should be immediately adopted, and the legs put in warm water. In cases of intoxication or other poisoning, vomiting should be promoted, an emetick, or the stomach pump, administered. In cases of persons frozen, friction with snow or cold water is to be preferred.

The annual Bills of Mortality were begun during a plague in 1592, and have been continued weekly since 1603. No reliance is to be placed on their discrimination of diseases.

One-fourth of the deaths in London are from consumption, and one-eighth of the deaths arise from drinking spirituous liquors; which has been greatly increased by the legis-

lative measures to increase the consumption for the sake of revenue.

The deaths from small-pox in London, in the twenty years previous to the promulgation of vaccination, were 36189; but in the next twenty years, only 22480. In the same periods, in the Small-Pox Hospital, the numbers were 1867 and 814. The frequency of small-pox after vaccination seems to render it necessary to repeat the vaccination in seven or ten years.

Dr. D'Arcet has proved that clothes infected by persons who have just died of the plague, are purified by being steeped in a chloruret of soda.

Lady Mary Wortley Montague introduced inoculation for the small-pox from Turkey. Her own son had been inoculated with perfect success at Adrianople in 1718. She was allowed to inoculate seven capital convicts, who, on recovery, were pardoned. The practice was adopted by the enlightened, and therefore spreading the disease, it fatally increased among the vulgar and superstitious as interfering with God's providence.

Dr. Jenner made the first experiment in vaccination in May 1796, by transferring the pus from the pustule of a milkmaid, who had caught the cow-pox from the cows, to a healthy child; and publishing the result, the practice spread through the civilized world. The power of the cow-pox as an antidote to small-pox, was a fact familiar to the common people for a century before Jenner's promulgation of it. The tables of mortality have in consequence been so altered, that the average of life which used to be taken 30 and 33, now approximates to 40.

Previous to vaccination, the deaths from small-pox in London were 4000, or about one in five or six. Since, they have been reduced to an average of 1000, but the deaths from small-pox and cases after vaccination have latterly been on the increase.

Infanticide is practised in many countries, but in some of the South Sea islands it is practised systematically by a society called the *Earowies*, which consists of the heads of families, and are bound to destroy their own children. All the voyagers concur in describing this extraordinary association. Two-thirds of the children born in Otaheite are immediately destroyed.

Edward the Confessor was the first king of England who fancied he could cure the king's evil by touching. This vulgar credulity had, in the age of Charles II., arisen to such a height, that in 14 years, 92107 were touched, and, according to Wiseman, the king's physician, mostly cured!

Caspar Hanser was shut up in a dungeon from four to sixteen. He spoke with difficulty and like a foreigner. He passed his time sitting in a cell 5 feet by 4, and had food and water brought him. At first he could not walk, and had no idea of his power to move or of moving. The light of day oppressed him. All objects disordered him, but musick fixed his attention. At 16 he had no ideas whatever, nor any passions, but on his liberation he learned rapidly.

The dwarf Jeffry Hudson was 3 feet 9, and Count Borowlaski 2 feet 4 inches.

A female who in 1829 was 42 years of age, and resided at Pynacre, near Delph, had, from disease, not eaten any thing since 1818, nor drank any thing since 1820. Total exhaustion was prevented by damp wrappers.

In 1800, a French prisoner at Liverpool exhibited a most extraordinary propensity to devour nauseous diet, particularly cats, of which, in one year, he ate 174, many of them while alive.

An Esquimaux boy, supplied by Captain Parry, ate in one day 10¼ lbs. of solid food, and drank of various liquids 1½ gallon. A man of the same nation ate 10 lbs. of solids, including two candles, and drank 1½ gallon, yet they were only from 4 to 4½ feet high.

During the last great plague in London, one pit was dug in the Charter House, forty feet long, 16 feet wide, and 20 feet deep, and in a fortnight received 1114 bodies. During this dire calamity, there were instances of mothers carrying their own children to these publick graves; and of people delirious, or in despair for the loss of friends, who threw themselves alive into these pits.

The grain on which man chiefly subsists is rice, wheat, maize, barley oats, and rye.

Such is the force of education, and so much are men what the habits of infancy make them, that in spite of the conceits of the English when Florida was ceded to England by a treaty with Spain in 1769, the whole of the Spanish population left the province and towns except one in a single town and another single in the woods. The same feeling was exemplified by some inhabitants of Nova Zembla, who, on being brought to Denmark, and clothed and fed with every luxury of civilization, so pined for their return to their own inhospitable desert, that some of them died before they could be sent back. Something like this strong principle doubtless governs birds and animals in their return to their native haunts.

Vegetable aliment, as neither distending the vessels, nor loading the system, never interrupts the stronger action of the mind; while the heat, fulness, and weight of animal food, is adverse to its vigorous efforts.
Cullen.

You ask me for what reason Pythagoras abstained from eating the flesh of brutes; for my part, I am astonished to think what appetite first induced man to taste of a dead carcass; or what motive could suggest the notion of nourishing himself with the loathsome flesh of dead animals.
Plutarch.

Nothing can be more shocking or horrid than one of our kitchens sprinkled with blood and abounding with the cries of creatures expiring, or with the limbs of dead animals scattered or hung up here and there. It gives one an image of a giant's den in romance, bestrewed with the scattered heads and mangled limbs of those who were slain by his cruelty. *Pope.*

The common definition of man is false; he is not a reasoning animal. The best you can predicate of him is, that he is an animal capable of reasoning. *Warburton.*

The perception of a woman is as quick as lightning. Her penetration is intuition; almost instinct. By a glance she will draw a deep and just conclusion. Ask her how she formed it, and she cannot answer the question. A philosopher deduces inferences; and his inferences shall be right; but he gets to the head of the stair-case, if I may so say, by slow degrees, mounting step by step. She arrives at the top of the stair-case as well as he; but whether she flew there is more than she knows herself. While she trusts her instinct she is scarcely ever deceived, and she is generally lost when she begins to reason. *Sherlock.*

In the year 1814 was living in the neighbourhood of Highgate, a married woman, aged 35, the whole of whose body, except the face, was exactly divided by a straight line into white and black. The right side, arm, and leg were black, and subject to eruptions; and the left side, arm, and leg altogether white. The neck, with her face, were white. Her children possessed none of her peculiarities.

The Biddenham maids born in 1100, had distinct bodies, &c., but were joined by the hips and shoulders. They lived to be 34; and ne dying the other refused to be separated, and died in a short time. They left twenty acres to the poor, still distributed in bread every Easter Sunday.

A more recent case of like kind is that of the Siamese or Chinese youths shown in London. They are joined by a band of cartilage and skin at the stomach, from two inches and a half to four inches long, and eight inches round, are healthy and cheerful, and one in body, inclinations and habits. The band of union is considered as an enlargement of the umbilical cord. There is no nervous connexion through the band, and their sympathy of feelings appears to be the result of habit from infancy to maturity. When both cough, the band is distended like a chronick hernial sac. The abdominal cavities appear to communicate and to have but one peritoneal lining; but the viscera are distinct. At the exact line where one begins to feel the other ceases to feel, and there is no point where both feel. They had a fever together, but not equally great, and both had a cold at the same time. Their evacuations are made together. They go to sleep together and wake together exactly. They play at chess, and differ in ideas about moves—but in habits they are alike, and different in body though they grew upon one placenta by one umbilical cord.

The late blind Justice Fielding walked in my room for the first time, when he once visited me, and, after speaking a few words, said, "This room is about twenty-two feet long, eighteen wide, and twelve high:" all which he guessed with the greatest accuracy by the ear.—*Darwin.*

Most animals live in amity, but man is the enemy of all; and, unlike those ferocious creatures who kill from motives excited by want and hunger, man kills every thing for sport, aversion, fear, superstition, wantonness, and often for the mere sake of seeing that dead which was living in enjoyment. In consequence, he destroys the natural circle of existence, and reduces countries which he inhabits to deserts, like the once fertile kingdoms of Assyria, Babylonia, Nineveh, Judea, Syria, &c.

About the age of thirty-six the lean man usually becomes fatter, and the fat man leaner. Again, between the years forty-three and fifty, his appetite fails, his complexion fades, and his tongue is apt to be furred upon the least exertion of body or mind. At this period his muscles become flabby, his joints weak, his spirits droop, and his sleep is imperfect and unrefreshing. After suffering under these complaints, a year, or perhaps two, he starts afresh with renewed vigour, and goes on to sixty-one or sixty-two, when a similar change takes place, but with aggravated symptoms. When these grand periods have been successively passed, the gravity of incumbent years is more strongly marked, and he begins to boast of his age. *Dr. Waterhouse.*

The grand climacterick in human life varied between sixty and seventy; and was an astrological period, which depended on the revolutions of Jupiter and Saturn, five of one and two of the other making the climacterick age. By the English law infancy in males extends to twenty-one, and in females to twenty; but the ancients reckoned the period of adolesence to twenty-five.

Total abstinence above seven days is fatal to man; but there are instances of surviving after a longer period. A religious fanatick, in 1789, determined to fast forty days, and died on the sixteenth.

The quantity of pure water which blood in its natural state contains, is very considerable, and makes almost seven-eighths thereof.—*Macquer.*

The Indians destroy their deformed children. Their skins are very thick. They have no beards or hair, except on their heads, for they pluck it out as it appears with split sticks.

The Esquimaux are but four feet high in the north of the American continent; while the Patagonians, in the south, are rather taller than Europeans, and an athletick race. The men are from five feet ten inches to six feet six inches; and measure four feet round the chest, and nearly as much round the pelvis.

Hair has been transplanted from one part of the body to another.

Near-sighted persons are called myopes. Their eye is too convex. A concave glass corrects the defect; just as a convex glass enables us to see nearer by converging the rays.

Among the mammalia, man only has but one thumb.

The atoms composing a man are believed to be changed every forty days, and even the bones in a few months.

The pulse of children is 120 in a minute, at puberty eighty, and at sixty only sixty.

Dr. Lamb infers from the teeth, stomach, and intestines of man, that his natural food is vegetables. Other anatomists have maintained the same opinion, and many philosophers, in all ages, have proved the advantages of vegetable diet in their continued good health and extraordinary longevity. Pope ascribes all the bad passions and diseases of the human race, to their subsisting on the flesh, blood, and miseries of animals. Many thousands in England now live by choice on vegetables; while the Irish, Scotch, and most of the labouring classes do it from necessity, and enjoy health and vigour, except when they indulge in spirituous liquors.

Dr. Lettsom ascribed health and wealth to water, and happiness to small beer, and all diseases and

crimes to the use of spirits: making of the whole a moral thermometer. The Abbe Gallani ascribes all social crimes to animal destruction, thus treachery to angling, and ensnaring; and murder to hunting and shooting; and he asserts "that the man who would kill a sheep, an ox, or any unsuspecting animal, would kill his neighbour but for the law."

Boerhaave describes eight temperaments, the warm, cold, dry, moist, bilious, sanguinous, phlegmatick, and melancholick. The ancients divided men into the airy, the fiery, the phlegmatick, and the earthy; or the sanguinous, the cholerick, the moist, and the melancholick. Reece assigns seven constitutions as connected with disease: the sanguinous, or inflammatory; the phlegmatick, or relaxed; the erysipetalous, or nervous; the hypochondriacal, or spasmodick; the scrofulous: the rheumatick; and the arthritick, or gouty.

Reece in his excellent Medical Guide, enumerates 220 drugs in general use in the relief or cure of diseases. The chief part are derived from the vegetable kingdom; and there are five preparations of steel, three or four of mercury, one of tin, two of sulphur, four of nitre, and twenty or thirty purely chymical, as quinine, morphine, iodine, prussick acid, &c.

As the animal system does not admit of two excitements at the same time, most morbid affections are relieved by new excitements and these abating, the disease abates, and is often cured. This is called sympathy, and the stomach and brain appear to be the common centres of it.

The same medicines, says Reece, have contrary effects primarily and ultimately, and as applied to different functions of the system. Thus opium is at first stimulating, and then sedative. Cayenne and black pepper are inflammatory stimulants of the skin, but remove inflammation of the palate. Turpentine excites the skin, but operates as a sedative in puerperal fever, and on the kidneys. Digatalis diminishes the action of the heart and arteries, and increases that of the absorbents. So with others.

Arsenick and acid solutions of mercury, copper, lead, antimony, &c. are active mineral poisons, for which sulphur and salt of wormwood, or charcoal, are the best antidotes next to the stomach syringe.

Reece relates that a leech of 3 drachms takes 3¼ of blood, and as much more escapes after. Those of smaller size in less proportion; so that 24 large leeches take 17 ounces, and 24 small ones but three.

Vinegar boiled with myrrh or camphor and sprinkled in a room, corrects putridity. Smyth's plan was, to heat half a tea cup of vitriolick acid in a vessel of hot sand, and stir into it some powdered nitre, till the room is filled with nitrous vapour. The chlorurets of sodium and calcium have lately been adopted.

The marks used in pharmacy for different weights are as under:–

℔*j*.....a pound or pint.
℥*j*.....an ounce.
℥*ss*.....half an ounce.
ʒ*j*.....a drachm.
ʒ*ss*.....half a drachm.
℈*j*.....a scruple.
℈*ss*.....half a scruple.
gr. j.....a grain.

If for manhood a dose is a drachm; in youth it is half; at four it is fifteen grains; at one year five grains; at one month one grain.

A tea spoonful is a drachm; a table spoonful half an ounce; a wine glass two ounces; a tea cup three ounces; a pint is a pound. A drop is a grain or minim; and sixty are a drachm. In prescriptions, *m* stands for minim; *a*, or *ana*, for, of each; *ss* the half; *cong.* a gallon; and *cochl.* a spoonful.

Drugs are weighed below a drachm in three scruples or sixty grains; but above a drachm by avoirdupois weight, and compounded by troy weight. Wine measure is also used.

THE VEGETABLE KINGDOM.

The twenty-four classes of Linnæus are called, according to the number of Stamens—

1. Monandria.	13. Polyandria.
2. Diandria.	14. Didynamia.
3. Triandria.	15. Tetradinamia.
4. Tetandria.	16. Monadelphia.
5. Pentandria.	17. Diadelphia.
6. Hexandria.	18. Polyadelphia.
7 Heptandria.	19. Syngenesia.
8. Octandria.	20. Gynandria.
9. Enneandria.	21. Monesia.
10. Decandria.	22. Diœcia.
11. Dodecandria.	23. Polygamia.
12. Icosandria.	24. Cryptogamia.

The orders are as under, depending on the Pistils—

1. Monogynia.	15. Siliquosa.
2. Dygynia.	16. Polygamia equalis.
3. Trigynia.	
4. Tetragynia.	17. Polygamia segregata.
5. Pentagynia.	
6. Hexagynia.	18. Monogamia.
7. Octagynia.	19. Monœcia.
8. Enneagyina.	20. Diœcia.
9. Decagynia.	21. Triœcia.
10. Dodecagynia.	22. Filices.
11. Polygynia.	23. Musci.
12. Gymnospermia.	24. Hepaticæ.
13. Angiospermia.	25. Algæ.
14. Siliculosa.	26. Fungi.

The virtues of plants have always been an object of study. Plants are the first decomposers of minerals into their elements, and they also assimilate the constituents of air and water; and, therefore, are nature's chymists. Pharmacy has in some degree superseded them; but till within two or three hundred years, they were medicine as well as food. Their various virtues were seized on by superstition, and for many ages they were connected with the fancies of astrology. The day was divided into planetary hours; and no plant was believed to have its virtue, unless gathered in the hour of its planet, and also at a particular age of the moon.

Botany has always been a favourite study; however, as species and varieties are as numerous as the combination of the elements in various proportions, classification and nomenclature were at all times an object of solicitude. Many attempts, therefore, were made by different botanists, as by Cæsalpinus, Morison, Rivinus, Ray, and Tournefort, who successively adopted most of the distinctions and terms still in use.

But as these were not sufficiently comprehensive and discriminating. Linne, a Swede, or Linnæus, as Latinized, began about the year 1730, to adopt what is called the sexual system, in which he classed them according to the number and situation of the sexual parts, and made the flower and fruit his test of various genera. His first great work was a dictionary of 7300 plants, arranged in classes, orders, and genera, according to this mode of discrimination, improving the old terminology, and giving the trivial of vulgar names.

Van Royen, of Leyden, soon after promulgated another system; Gleditch another system, more simple; and Haller a third: but the system of Linnæus soon prevailed through the civilized world.

His only successful opponents were the Jussieus, who promulgated a natural system, fonnd on the habits and affinities of plants; and this system is now generally adopted in France, and much respected throughout Europe and America.

The terms in botany are very numerous and complicated, and, though generally expressed in Latin, they have clear English synonymes.

25 terms are used in general description.

13 for state of vegetation.

68 divisions of particular descriptions; each subdivided into 400 discriminations, divided among the 68 divisions.

The anatomy and physiology of plants includes half as many more, and the classes and orders about 300 more.

Jussieu divides plants into three divisions: the acotyledons, when the seeds are destitute of lobes; the monocotyledons, with one lobe; and the dicotyledons, with two lobes. The first includes what Linnæus calls cryptogamia; the second is divided into three classes, of four orders, eight orders, and four orders. The dicotyledons are divided into eleven classes, containing seventy-eight orders.

The Linnæan system consists of twenty-four classes, and twenty-six orders, divided into 3000 genera; the

genera into 50 or 60000 species; and the species into an almost infinite number of varieties. The twenty-four classes depend on the number of stamens, and the orders on the number of pistils.

Botanists record 56000 species of various plants; and 38000 are to be found in catalogues.

The ultimate and proximate principles of all vegetation are oxygen, hydrogen, carbon, and occasionally nitrogen. The proximate principles depend on the proportion of those elements; as when the oxygen is in greater proportion than water, or less, or equal, or when there is nitrogen. This general division indicates acid vegetables, neutral vegetables, inflammable vegetables, and animal product. The first, where the acids prevail, is the acetick acid, the oxalick, citrick, tartarick, benzoick, camphorick, gallick, malick, suberick, succinick, mellitick, saclactick, fungick, and kinick. These acids confer an acidulous character on all vegetables with which they are combined.

When the oxygen and hydrogen are combined in the same proportions as in water, the substance is not acidulous, but consists of sugar, gum, starch, wood, or lignin tannin, and what is called extractive.

When there is an excess of hydrogen, then unctious and inflammable bodies are generated, as fixed oil, volatile oil, resin, caoutchouck, camphor, and wax. In the division containing nitrogen is found vegetable gluten.

Vegetables contain in substance, acids, sugar, gum, mucus, jelly, starch, gluten, and five or six peculiar principles, as tannin, indigo, the bitter and narcotick principle, &c. They also yield oils, wax, resins, &c. In all about thirty-four several products.

Vegetables yield nine several acids: the oxalick in rhubarb; the tartarick in tamarinds, grapes, and mulberries; the citrick in oranges lemons, and onions; the malick in apples, cherries, &c.; the gallick in elm, oak, &c.; the benzoick in balsamick trees; the prussick in laurel leaves, peach blossoms, and bitter kernals; phosphorick in barley, oats, &c.

Sugar consists of oxygen 51, carbon 42, hydrogen 7.

The sugar plant is called the *saccharum officinarum.*

Vegetable substances are fibrous or saccharine, or mucilaginous, when their oxygen or hydrogen are in the same proportion as water. They are oily or resinous, or contain alcohol, when there is an excess of hydrogen; and they are acidulous when there is an excess of oxygen.

The substance of fruit varies as it matures. Green apricots afford no sugar, but more advanced .066, and when ripe .165. The woody fibre is .036, then .025 and .019; the proportion of water also is .89, .84, and .75.

The process of germination changes oxygen gas into carbonick acid, but does not affect the azotick portion of the atmosphere; it is supposed that the seed absorbs the oxygen, and gives out the carbon.

The sap of vegetables consists chiefly of water, with a small portion of potass, some vegetable matter, and carbonate of lime.

The evaporation of vegetables consists of water and minute portions of gummy matter, and carbonate and sulphate of lime.

Vegetation converts the gas of the atmosphere into an equal bulk of carbonick acid gas, without affecting the azote. When no oxygen is present, they either form carbureted nitrogen or carbureted hydrogen, always evolving carbon.

Light is unfavourable to the formation of saccharine matter in vegetation. Their juices are alike, and they are not inflammable when they grow in the dark. Light produces the varieties of their qualities as well as their colours, becoming white in the dark.

Leaves are coloured in the proportion in which acids and alkalies prevail in them; green indicates an excess of alkali. Solar light is the agent by which the carbonick acid in gas is decomposed. The oxygen is thus expelled, and the alkali produces green.

All fruits consist, in various proportions, of water, sugar, potass

malick acid, mucilage, tannin, gelatin, and a flavouring and colouring principle. The essentials in making wine from them are the sugar, tartarous acid, mucilage, and water. Flavour, colour, and tannin are not essential. The tartarous acid distinguishes wine, and the malick, cider. The sugar, by fermentation, yields the alcohol, with extractive vegetable matter.

The colours of flowers depend on light: and the colouring matter which they yield becomes red when an acid is added to it, and violet, blue, or green, when an alkali is added. Flowers decompose no carbonick acid, but they convert the oxygen in the air into carbonick acid.

The odorous matter of flowers is inflammable, and arises from an essential oil. When growing in the dark their odour is diminished, but restored in the light; and it is strongest in sunny climates.

The sap of plants is mucilaginous, albuminous, and saccharine, in the alburnum; and astringent, or tannin, in the bark. The cambium, between the wood and bark, is a mixture of both.

A retention of the oxygen for want of light, renders plants white; and its excess produces the same effect.

Fleshy leaves absorb oxygen in the night, and give it out in the sunshine. They produce carbonick acid, and also decompose it; and, therefore, do not vitiate the air. In a close vessel they deteriorate and restore the air.

Fruit put into an atmosphere that contains no oxygen, does not ripen; but the ripening process commences when oxygen is supplied. The total weight of fruit in ripening is very little diminished. Heat produces saccharine matter in fruits; and heat without light will mature them.

A chestnut tree grew at Tamworth, which was fifty-two feet round; it was planted in the year 800; and in the reign of Stephen, in 1135, was made a boundary, and called the Great Chestnut Tree. In 1759 it bore nuts which produced young trees.

In a pear shut in a close vessel for seventeen days, the ingredients were much changed: the sugar was doubled; and the gum, water and woody fibre, had decreased. 100 parts of the air contained 13¼ of carbonick acid, 7½ of oxygen, and 79 of azote.

There are twenty-one species of the pine: among which the cedar is the largest, and the wild, or Scotch, the most important, producing yellow deal, and trunks sixty or eighty feet high. The silver fir is not less valuable for its quick growth and vast size. The larch is another species of rapid growth.

There are sixty species of the pepper tree.

There are 100 species of heaths, and four natives of this island. In the Highlands they are used in building, for beds, and for malt liquor. They die an orange colour, with a mordant of alum.

There are 216 species of lichen: of which the *orchall* is purple or crimson die; the *omphalodes*, paler, but more lasting; and *islandicus*, used as bread, and in medicine.

Bamboo is, in the torrid zone, and in the East, a production of various most important uses, and grows from fifteen to sixty feet high, being from five to fifteen inches in diameter. It is well known by its hollowness and its joints; it grows rapidly, as much as twenty feet in a few weeks. It flourishes wild in many places; and in China, and other countries, is carefully cultivated in plantations. The soft shoots are cut and eaten like asparagus, and sometimes salted, and ate with rice. The hollow joints afford a liquid, drank by the people; and if not drawn off, a concrete medicinal substance is formed; and much valued. Decoctions of the leaves and bark are also prescribed. Its seeds are eaten as a delicacy; its large joints are used as buckets; and, in many countries, no other wood is used for building houses. Ships are framed out of it, and it furnishes masts and yards. Its leaves make fans. It is also used to make bows, and instead of lead pipes to convey water to great distances. It also forms writing pens, and is woven into baskets, cages, hats, &c.—bruised into pulp it makes fine paper; it is also used for every kind of furniture, and we imitate it in Europe by painting the knots of chairs and tables.

The cotton plant or genus gossypium contains 10 species and is extensively cultivated in warm climates. It belongs to the class monodelphia, and the order polyandria. The seeds are enclosed in a capsule and involved in the filaments called cotton. The plant is raised from seed sown in holes in the spring months. The superfluous plants are pulled up, and the others pruned to the height of four feet. There are annual plants, but the perennial species is cultivated in South America. The seed springs up in a few days in showery weather, and the cluster of plants is weeded when they are a few inches high. The tops are pruned to increase the branches. They yield in seven or eight months, and the crops improve for two or three years, and every four or five years the plants are renewed. The blossoms, a double calyx exteriorly, three cleft, appear in July and August, the pods opening in a few weeks, and the first crop being picked in November and December. The rainy season then produces a second crop, picked in March and April. The pods are then dried in the sun until the seed becomes hard, and the seed is then separated from the cotton by a gin. It is then picked and packed for market. Its great enemy is the caterpillar, called the chenille. An acre of cotton trees, under favourable circumstances, yields 400 lbs. of cotton. The pods are the size of apples, and filled with cotton, surrounding the seeds.

Four only of the species of cotton or gossypium, are important to commerce. The herbaceous is but two feet high, with capsules full of seeds wrapt in cotton wool. The hirsutum, same size, with hairy stalks and leaves, and American. The Barbadoes four to five feet high. The cotton tree, perennial and six or eight feet high.

The mahogany tree is a native of Cuba, Jamaica, &c. and grows from 60 to 100 feet high, with deep green foliage, orange-coloured flowers, and fruit the size of a large egg.

Cork, whose specifick gravity is 240, or ¼ that of water, is the bark of a tree called *guercus super*, which flourishes in southern Europe, and northern Asia. It falls from the tree at 12 or 15 years old; but for commerce they are stript for several years successively and then allowed an interval of 2 or 3 years. The young trees are stript only every third year. It is flattened by being piled up in damp places, and loaded with weights, it is then dried over fires for use. As a bad conductor of heat it is used to increase the warmth of apartments, and as the lightest and most elastick of the woods no substance is more generally useful.

The *morus* or mulberry tree has several species. The white, feeds silk worms in China, the leaves sheep, and the branches make firewood. The black produces the best fruit. The bark of the *papyrifero* species is employed in Japan to make paper, and it also makes fine white cloth.

The cinnamon tree is a species of laurel, and is a native of Ceylon. It grows to 20 or 30 feet and its trunk and branches produce the bark.

Indian arrow root is a native plant of South America and cultivated in the West Indies. It is a creeping root, with stalks about two feet high, and the roots pounded and bleached make the starch which is used as nutricious food. It was supposed to be an antidote to the poison of Indian arrows, and hence its odd name. Linnæus calls it *maranta*.

The banian is the sacred tree of the Hindoos. Every branch shoots a new root to the ground, so that they spread indefinitely and afford shady retreats for comfort and religion.

The date in all tropical countries, is one of the most common trees, and grows from 50 to 100 feet, affording food, clothing, &c.

The banana or plantain is the most useful of trees. Its fruit 12 inches long and two thick, serves for bread; the leaves serve for cloth and covering; the root is perennial, but the stalk is annual, and grows to 15 or 20 feet.

The chinchona tree which produces the Peruvian bark flourishes chiefly in the elevated plains of Quito.

Cassada roots are made into bread

in Brazil, and its starch is what we call *tapioca*.

Sursaparilla is the root of a Peruvian plant called *smilax*. *Sassafras* is the wood of a tree of the laurel kind.

The great palm or date tree grows in Africa to the height of 60, 80, and 100 feet.

Botanists infer that plants are poisonous when the fruit is a berry, the flower a single petal, and when the fructification consists of five stamens and one pistillum.

The nux vomica, or poison nut, imported in large quantities (as well as opium and coculus indicus) for brewers, is grown on the coast of Coromandel.

The belladona or deadly night shade produces berries like black cherries, which often poison children and cattle.

The potato and yam of the Indians is the arum cupanolatum, the roots of which are 5 or 6 lbs.

Nutmegs are the kernel of a fruit like the peach, and when its pulpy covering is removed, is surrounded by a coat of mace.

The tcha or tea tree flourishes best in a light soil; it is raised from seeds sown in spring and transplanted in rows three or four feet asunder. After three years the leaves are plucked, and the plants yield three year's crops and are then renewed. They resemble myrtles, and their flowers are like the wild white rose. In some provinces they grow six or seven feet high, and in others ten or twelve. They are often made use of for hedge rows, and the leaves gathered for domestick use. The leaves at the extremities are the best, and in spring of bright green. When gathered they are first steamed and then placed on copper, iron, or earthen plates over fires, by which they are shrivelled and curled up. The black teas are then exposed to the sun. The leaves of some other shrubs are so like that, they are often fraudulently mixed. The common sorts are sold in China at *4d.* a pound and the superiour at *2s.* The additions in foreign countries arise from freight, profit, and government duties, and the profit of the Chinese merchants is from 25 to 50 per cent. The duties in England are cent. per cent. on the price at the company's sales. The English East India Company import above 30 millions of lbs.

Black teas are grown chiefly in the province of Fo-kien. The Chinese prefer it to green tea as a better stomachick; the commonest sort is called bouy or bohea. Congou or *congfoo* is a finer kind sold at double the price. *Saot-chong* or souchong is the best kind, and sold at treble. Pekao is another superiour kind, but milder. The tender leaves of young plants are called *mastcha* or tea for the emperour.

Green teas are chiefly produced in the province of Kianguan; the difference is believed to arise from the black being dried on iron plates and the green on copper plates. The songlo green teas are so called from a mountain of that name, on and around which the shrubs grow. Haysuen or hyson is sold at double the sanglo. Tchu-tcha or gunpowder tea is rolled up by the hand and sold at treble the sanglo. The Chinese keep tea a year; generally in those jars which in Europe are used as chimney ornaments. They infuse it in boiling water and drink it without milk or sugar. They frequently reduce it to fine powder, and put a tea-spoonful into a cup, fill it with boiling water, stir it, and drink it. The Japanese cultivate this shrub as well as the Chinese.

Tea was first introduced about 1660, and sold at *60s.* per lb., and hence coveted as a luxury. 30 millions of lbs. are now used in the United Kingdom.

About four millions of lbs. or one fifth of sloe, liquorice, and ash leaves, are alleged to be annually mixed with tea before it is sold to retailers.

The freight of tea from China is equal to *4d.* per lb. Tea shrubs only bear once in two or three years.

The allspice or pimento is 30 feet high and eight or nine inches in diameter.

The average crop of an orange tree is from 6 to 8000. 90000 boxes are imported per annum.

The clove tree grows 40 or 50 feet, bears at 20 and continues till 50; they yield from 5 to 30 lbs. per annum.

This spice is cultivated chiefly at Amboyna and three adjacent islands. When possessed by the English the islands yielded about 120000 lbs. per annum, which sold for 20000*l*. The same mercenary despotism on the part of the Dutch prevails here as at Banda.

Opium is the hardened juice of the white poppy and is an article used in Mahomedan countries as a substitute for prohibited wine and spirits, and in England by public brewers to give an intoxicating character to their deleterious compounds. The consumption, in consequence, is enormous, from 50 to 60000 lbs. being consumed in this country per annum. Its price is about 15 or 16*s*. per lb. Superiour opium is also grown in England.

The narcotick or stupifying vegetable principle is made from white poppy, as opium, laudanum, &c. and also made from the milky juice of lettuce, &c.

The betel or pawn, chewed in the East by both sexes, like tobacco, consists of the fruit of the areca palm wrapt in leaves of the betel pepper plant. The fruit grows in clusters, of a reddish colour, and the betel pepper is a species of vine with an ivy leaf; both are cultivated to an immense extent all over India.

Lime is used with the betel nut called *chunan*, and is prepared from calcined shells. This prevents any injury to the stomach. The chewing reddens the saliva and turns the teeth black, but it creates appetite and strengthens the stomach. Women chew it constantly, and the Singalese sleep with it in their mouths. It is the snuff and tobacco of the Hindoos. The quantity imported in some of the British settlements is from 1 to 200000*l*. per annum. Many Hindoos would rather want food than the betel.

The sugar cane succeeds in Louisiana and yields half the sugar used in the Union; an acre producing 9 or 10 cwt. Rice is also a productive crop, an acre, in moist situations, yielding 10 or 12 cwt., and in others 5 to 10. Indian corn yields from 40 to 100 bushels per acre, and wheat from 22 to 50. Tobacco about 1400 cwt. and Cotton when prepared for the market, from 1½ to 2 cwt.

Quercitron is the inner bark of the Quercus Niger or oak, and it produces yellow die. Oak saw-dust produces drabs and shades of brown. Oak apples are a substitute for galls.

Catachusa, a substance much used by tanners, is a hardened vegetable juice or sort of essence of the tanning principle. In analyses, 200 grains are found to contain 100 of tannin, 70 of a peculiar extract, 15 of mucilage, and 15 of earthy matter.

The teasel, used in raising the nap in woollen cloths is the flower of the *dipsacus fullonum*, cultivated in clothing districts. They are fixed on a cylinder revolved against the cloth.

Turners make bowls from sycamore wood. Another species is used for hop-poles. And 25 gallons of the sap of American acer yields 5 lbs of maple sugar.

One peck of seed wheat produces an average crop of two bushels; but by separating and transplanting the roots of a single grain of wheat 500-000 grs. have been produced. France, Poland, &c. produce 5 or 6 to 1, and fertile parts of France 15 to 1. In South America, from 12 to 24 to one.

Two bushels of seed in England, produce 18 of wheat, 4 of barley, and of potatoes 190 bushels in fair crops.

Black pepper is the powder of the fruit, which grows in clusters. White is prepared from it. Long pepper is another species of dried fruit of the pepper tree.

The heart of the aloes tree sells in India for its weight in gold, under the name of tamback.

Under fair management in Ireland, spade-squares of potatoes weigh 19lb. per spade, or 108 barrels per acre, each barrel 252 lbs. or 36000 lbs. to the acre, or 100 lbs. per day on an acre.

285 tons 11 cwt. of turnips were a single crop of turnips on an Irish acre in 1829.

The woods which are heavier than water are Dutch box, Indian cedar, ebony, lignum vitæ, mahogany, heart of oak, pomegranate, vine. Lignum vitæ, is one-third heavier

pomegranate rather more. Cork one fourth of a pound or 0.24, poplar 0.333, are the lightest woods.

Grew and Malpighi have given the following account of the structure of the apricot and pear, which may serve for other fruit. In the apricot there is a pulpy part, an osseous part, and in the centre the kernel; and the pulp and the stone or osseous part, consist of cellular tissue. The seed is connected with the stone by an umbilical cord. Within the ovulum is an inner tunick filled with celular tissue, and a small tube, the apex of which is the embryo, which when about the fifth of a cheese mite in size, may be distinguished in its parts. The pulp of the pear is made up of very fine cellular tissue, every where furnished with vessels. In the centre are five cells, each containing two seeds, severally attached by an umbilical cord. Throughout the pulpy matter, solid particles are dispersed chiefly about the core, and they serve as centres to little knots of vessels, of which there are fifteen principal ones and ten of them connected with the seeds. These subjects are only to be understood by ocular examination with a moderate microscope, for even the best engravings convey very inadequate notions.

The wood of trees is annually formed by a single ring of vessels which at first surround the pith, and in each following year a new ring of vessels is formed around the preceding; so that the timber consists of a series of annual rings, enclosed in each other. The outer one being whiter and more juicy, and therefore called sap wood, or alburnum.

The seeds of plants are their eggs. A sun flower produces 4000; a poppy 30000, a tobacco plant 3 or 400000; and spleen worth a million. Some, as the sea pink, have but one seed, umbelliferous flowers two, and the spurge and ranunculus three.

The anthers of flowers have nine several forms, and they contain the fecundating dust which impregnates the germ; they have one or more cells and stand on one or more filiaments.

The leaves of the mimosa genus collapse either by touch, by night, or by cold; and those of the foot stalk are the most sensitive to touch. The species scandens, spreads to a vast extent from tree to tree, and has pods eight feet long.

The late experiments of Dutrochet lead him to conclude that the *mimosa pudica* possesses the elements of a nervous system. He believes that all the motions are spontaneous and depend on an internal principle, which receives impressions from external agents.

The fibrous tissue of silk is said to be visible in the white mulberry, on which the worms feed.

Wheat and barley grow more in the day than night, and more rapidly from eight in the morning till two o'clock.

Fir contracts in width one 124th, and oak one 140th, by changes in the atmosphere.

Fairy rings are ascribed to expanding fungi, which in a circle of enlarged dimensions exhaust themselves.

Hops entwine to the left and convolvulus to the right. Tendrils bend to the left and back again.

The flower is the part of fructification in plants, and contains, and protects, and ornaments the stamens and pistils.

The seeds of plants consist of three parts: the cotytedon or side lobes, the radicle, and the plumula. The radicle is the germ of the root, and the plumula the stem of the plant. And germination depends on heat, moisture, air, and rest.

Deciduous trees are those whose leaves fall off every year, as opposed to evergreens.

The hedysarum gyrans, according to Linnæus, possesses in its leaves and petioles the power of locomotion, seldom being quiescent; the different leaves all over the plant moving variously up and down, round about, &c. without any external cause whatever.

All plants require a definite degree of heat; and, therefore their growth and heat are mutual tests. The plantain requires from 82° to 73°; and, therefore, will not grow beyond the 27th degree of latitude, or higher

than 1068 yards; or 1000 toises. The sugar cane 82° to 73°, or within latitude 36, or the height of 900 toises. The cotton plant from 82° to 68°, and latitude 34. The olive requires from 66° to 58°, from lat. 36 to 44. The vine requires heat from 62° to 48° and the winter not below 33°. Wheat flourishes at a mean heat of 55°, but when so low as 46°, neither wheat nor barley, nor oats nor rye, come to maturity.

The first green incrustation on rocks and walls, called bissus, species of mosses, leaves a thin stratum of earth for a second crop; and in fine, for wall plants.

Lichens and mosses are the first vegetables that grow on rocks; and in long time they create soil for others by their remains.

Roses came to us from Persia, and into Persia from India. They abound in the countries round the Caspian.

The lotus of the Egyptians is a species of nymphæa, or water lily with a flower like a tulip, white or blue. The roots of the white are eaten like potatoes.

The flower of the khubut, of Sumatra, a mere parasite of climbers, is in breadth three feet; its petals twelve inches; its nectarium would hold six quarts; and its pistils are like cow's horns. It appears as a knob, and expands for three months.

The potato was a native of Chili.

The metallick poisons and mephitick gases which kill animals, also kill vegetables.

The people of Kebba were employed in collecting the fruit of shea trees, from which they prepare the vegetable butter. These trees grow naturally in the woods, and in very great abundance; they resemble the American oak, and the fruit, from which the butter is prepared, is not unlike a Spanish olive. The kernel is enveloped in a sweet pulp, under a thin green rind; and the butter produced from it, besides the advantage of its keeping the whole year without salt, is whiter and firmer, and to my palate, of a richer taste than any butter I ever ate made from cow's milk.—*Park's Travels.*

The cocoa tree supplies the Indians with almost whatever they stand in need of; as bread, water, wine, vinegar, brandy, milk, oil, honey, sugar, needles, clothes, thread, cups, spoons, basins, baskets, paper, masts for ships, sails, cordage, nails, covering for their houses, &c. *Ray.*

The basins made of the leaves of the wild pine will hold a pint and a half or a quart of water; and when they find these pines, they stick their knives in the basis just at the roots, and that lets out the water, which they catch in their hats, as I have done many times myself.

Dampier.

Onions can never be sufficiently recommended; they possess more nourishment than perhaps any other vegetable. It is a well known fact, that a Highlander with a few raw onions in his pocket, and a crust of bread or a bit of cake, can work or travel to an almost incredible extent, for two or three days together, without any other food. The French are aware of this: the soup de l'onion is now universally in use after all violent exertions, as the best of all restoratives. Whoever has tasted onions in Egypt must allow that none can be had better in any part of the world; here they are sweet, in other countries they are nauseous and strong, whereas in the north, and other parts, they are hard of digestion: hence, they cannot in any place be eaten with more satisfaction or less prejudice than in Egypt. They eat them roasted; also made into a soup, which I think one of the best dishes I ever eat.

Hassilquist.

A large onion planted so near a rose-bush as to touch its roots, will greatly increase the odour of its flowers; and the water distilled from such roses is far superior in flavour to other rose-water.

Turnips were introduced into England from Hanover, in the reign of George I., by Viscount Townsend.

In 1816 a plantation of 3000 tea-trees was made in Brazil.

The fig-tree was introduced about 1548
The flowering ash 1710
Lavender 1568
Different mulberries, 1548, 1596, 1629
The Larch 1629
Common laurel 1629
Weeping willow 1692
Laurestina 1596

Barley, in rainy years, degenerates into oats; and oats, in dry seasons, change into barley. These facts, related by Pliny, Galen, and Mathiola, have been confirmed by the experiments of naturalists. *St. Pierre.*

Tobacco was the aboriginal name in St. Domingo; and, with slight variations, is adopted in every European language.

The Brazilian name of tobacco is petum. Its Linnæan name is *nicotiana*, and there are seven species. It would flourish in England, but for the fiscal laws.

Dry reeds, twenty feet high, cover tracts of hundreds of square miles in the Burmean territory.

An elm is full grown in 150 years, and it lives 5 or 600. Ash is full grown in 100, and oak in 200.

A log of mahogany has been brought to England weighing 6¾ tons.

The quantity of seed used in dibbling is from 1½ to 2 bushels per acre; by broad cast it is 2½ bushels per acre.

Ivy does not kill trees, nor does it grow from their bark.

A sitting room, twelve feet in diameter, was lately shown in London, hollowed from an American walnut tree, eighty feet in the trunk, and 150 feet in the branches.

A chestnut tree on Etna, is 196 feet round close to the ground; and five of its branches resemble great trees.

The Damary oak, near Brentwood, was sixty-eight feet round, and seventeen feet above the ground was twelve feet in diameter.

In the West Indies, the negroes prefer their own preparations of the plantain fruit to bread; and hence the bread-fruit tree, transported at such an expense from the South Sea islands, has been attended with no success in the colonies. *Young.*

In England, the following is the order in which plants display flowers in spring:—

The furze.
The daisy.
The groundsel.
The hellebore.
The snow-drop.
The crocus.
The mezereon.

In *January* the black hellebore and sweet colt's-foot are in flower. In *February* the crocus, the snow-drop, the polyanthus, and the hepatica and daisy. In *March*, the early violet, the primrose, the daffodil, the pile-wort, and the red-dead-nettle. In *April*, the cowslip, the crowfoot, the harebell, the lady's smock, the woodanemone, the dandelion, wood sorrel, and the wild yellow tulip.

Field plants flower as under on the average of seasons:—

In *January*, groundsel, chickweed, hazel, maiden hair, hart's tongue.

In *February*, shepherd's purse, daisy, lungwort.

In *March*, green hellebore, golden saxifrage, fumitory, speedwell, violet, heart's ease, lady's smock.

In *April*, ground ivy, dandelion, stitchwort, black thorn, buttercup, crowfoot, harebell, bugle, and globe flower.

From this time till autumn all vegetation flowers; but in October, November, and December, only the mosses and yew trees; but many flowers blow till Christmas.

Apples ripen in the following order: the codlin, the margaret, the pearmain, the golden rennette, the russet, the nonpareil, the golden pippin. Those used for cider are the red-streak, the royal wilding, whitesour, the underleaf, the John, the hanger, and the gennet.

Culmiferous plants are wheat, *triticum*, which grows best on a stiff or clay soil. Rye, *secale*, grows best in a chalky soil. Barley, *hordeum*, which requires a mellow soil, rather light. Oats, *avena*, which succeeds in the poorest soils.

Leguminous plants are potatoes, *solanum tuberosum*, planted in April. Turnips, *brassica rapa*, sown in June. Pease, *pisum*, sown in February. Beans, *vicia fabia*, sown in February. Carrots, *daucas*, sown in April. Parsnips, *pastinaca*, in autumn. Cabbages, *brassica oleracea*, in March or April. Burnet, *poterium*, sown in March. Beet, *beta*, sown in March.

Herbaceous plants are flax, *linum*, used for linen and oil, grows on a deep sandy loam. Hemp, *cannabis*. Rape, or cole-seed, *brassica napus*.

Woad, *isatis*, used in dying. Hops, *humulus*, used in malt liquor.

Alkanet root is used to colour lip-salve.

Orris, or iris root, is imported from the Levant.

Rhodium is the scented wood of the Chinese rose tree. Yellow Saunders is another eastern scented wood. Cassia-lignum is a scented bark from Ceylon. Cinnamon bark is well known for its fine scent. Clove bark is another of these scented vegetables.

Storax is a fine flavoured gum used in honey-water, &c.; gum Benjamin is another gum, labdanum another; also gum myrrh, dragon's blood, assafœtida, gum Arabick, and tragacanth: all from the east. The balsams of Peru and Tolu are liquid gums.

Otto of roses is the oil which swims at top in the distillation of rose water.

Sarsaparilla is a valuable alterative.

Peruvian and cascarilla bark, and chamomile flowers, are powerful tonicks.

The aromaticks in general use are cinnamon, nutmeg, cloves, orange and lemon peel, pepper, peppermint, spearmint, ginger, cardomon, anise, caraway, coriander, and dill and cumin seeds.

Rhubarb, jalap, pulp of cassia, bitter apple, aloes, senna, henbane, fox glove, and oil of croton seeds, and castor seeds &c. are used as catharticks. Saffron is used as a cordial.

Decoctions of marsh-mallow root, sarsaparilla, barley water, oatmeal, and grit gruel, are used as demulcents.

Sudorificks re guaiack gum, contrayerva root, and ipecacuanha.

Vegetable diureticks are squills, fox-glove, dandelion, wild carrot seeds, parsley root, buchu leaves, &c.

The senatives are opium, nightshade, lettuces, poppy heads, colchicum, henbane, hemlock, stramonium, and tobacco.

The stimulants are the aromaticks, mustard seed, euphorbium, and foxglove for the kidneys, and ergot of rye for the uterus.

Snuff-taking in England took its rise from the capture of vast quantities of the article in Sir George Rooke's expedition to Spain, in 1702. The prize of the forces was sold in England, and gave rise to a habit now general, and which yields a million a year to the revenue. It is useful only to those disposed to apoplexy, increasing the secretions, and acting like a seton. There are above 120 several sorts in some of the London shops, as at Taylor's, in Fleet Street, &c., consisting of tobacco powder, with various admixtures, scents, &c.

Cudbear is a vegetable substance which grows on rocks, and used in dying purple.

Balsam of Peru is a decoction from the plant *peruiferum*, which grows in Africa and Peru.

Salop is made from the root of the orchis, or fool-stone, a favourite food in eastern countries.

An oak tree in three years grows 2 feet 10½ inches. A arch 3 feet 7½ inches. An elm 8 feet 3 inches. A beech one foot eight inches. A poplar six feet. A willow nine feet three inches.

The pimento or allspice is a species of myrtle in the West Indies, which grows thirty feet high.

Plants are mature for propagation as they are ill nourished.

Terra japonica is the produce of the mimosa catechu.

Liquorice is the extract of the juice of a root cultivated at Pontefract, where it is made into pectoral cakes, and also in Spain and the Levant, and made into cakes, much used by brewers and in pharmacy.

Gall nuts are protuberances on trees created by the puncture of insects, and gallick acid is made from those on the oak.

Gamboge is a concrete vegetable juice, and produced from two trees called *caracapulli*, which grows in Cambodja.

The dendrometer is an instrument for taking the exact contents of standing trees, boughs, &c.

A similitude has been established between feathers and vegetable prickles.

Potatoes afford one-sixth of dry starch.

Pounce is gum sandarach pounded fine.

Raisins are perfectly ripe grapes, dried in the sun, or in ovens.

Bird lime is prepared from the berries of the mistletoe and the middle bark of the holly; it is boiled till it becomes soft.

Mouldiness is a minute vegetation of perfect plants, flowers, &c. of the fungi genus. Dry rot is a variety of mouldiness.

The capsule of the white poppy contains 8000 seeds.

Mum is a German liquor made from malt.

Molasses is the sirup of the cane, which does not crystallize, corresponding with the water of crystallization.

Farina or meal is made from grain, and its nutriment depends on the starch which it contains.

Mace is the second coat of the kernel of the nutmeg.

Manna is a natural product of the ash and larch, and it exudes from those trees in Sicily and Calabria.

Myrrh is a gum resin brought from the Levant and India.

Pitch is inspissated tar, drawn chiefly from pines and from ruins of their ancient forests, in the coal distilled from gas.

Soy is made from the beans of the *dolichos soja*, a native of Japan, pickled and fermented with salt.

The disease in rye, called spur or ergot, affords a black powder, useful in quickening parturition.

The round leaf cornel, has been found useful as a tonick: and the lobella inflata in asthma.

Tincture of chirayita is used as a stomachick; and the essence of buchu leaves for diseases of the bladder.

The charcoal of the areca nut makes a valuable tooth powder.

Extract of lettuce is used to arrest coughs, and as an efficient sedative.

Musk seed is used as a tincture to cure nervous affections.

Colchicum smoked relieves asthma, and as a tincture, relieves rheumatism.

Hedge hyssop, with honey and vinegar, relieves pulmonary affections.

Belladona is a powerful narcotick.

Rhatany root is used as a tonick, and also as tooth powder.

Snuff made from asarabaca, relieves the head and strengthens the sight.

Oil of walnuts and walnut soap are specificks for the removal of pimples and cutaneous blotches.

The sugar cane is a tall reed. The soft parts are eaten by the negroes, and from the hard parts the juices are expressed, which by boiling and evaporation crystallize as sugar.

Chocolate is the solid oil of the cocoa nut.

Gum is pure mucilage, and the juices which when matured are sweet, oily, and farinaceous, were originally mucilaginous.

Lichen or liver-wort yields mucilage, and makes a strong jelly when boiled in water or milk.

MINERALS, METALS, AND CRYSTALS.

Werner divides the primitive rocks as under:—

1. Granite.
2. Gneiss.
3. Mica slate.
4. Clay slate.
5. Primitive limestone.
6. Primitive trap.
7. Serpentine.
8. Porphyry.
9. Transition Sienite.
10. Topaz rock.
11. Quartz rock.
12. Primitive flinty slate.
13. Primitive gypsum.
14. White stone.
15. Clay porphyry.
16. Pearl stone do.
17. Obsidian do.
18. Transition Sienite.
19. Pitch stone.

The transition rocks are—

1. Transition lime stone.
2. Transition trap.
3. Gneiss-wacke.
4. Flinty slate.

Werner teaches that the constituent materials of the primitive rocks formed originally a chymical compost, which deposited the primitive crystallized rocks in a solid state, previous to the formation of vegetables or animals. In the strata which lie on these, their fragments with shells, &c. are found: and these he calls the transition rocks. On these lie the floetz, or secondary rocks. Older and other systems than Werner's had not the advantage of his experience and general science.

Rocks consist of substances differently put together; as by chymical crystallization, considered as natural formation, and therefore primitive, as quartz, felspar, mica, and hornblende, which make up granite, gneiss, sienite, serpentine, porphyry, &c. of eight kinds. The rest are mechanical deposites, formed by the action or solution of water; then there are a class of rocks made up of both these deposites and called transition rocks, which contain the earliest simple petrifactions. The rocks entirely mechanical, consist of sandstones, limestones, gypsum, chalk, iron, stone, &c. and are called secondary.

Werner thinks the quantity of water on the earth was once greater than at present. He infers that transition and secondary rocks are newer than primitive, because the latter basset or appear at the surface only in elevated spots, and the other successively in lower situations. The primitive are chymical formations of silica, alumina, and magnesia, and are of 19 kinds. The transition are of four or five kinds. and partly chymical, partly mechanical, with petrifactions of Zoophites. In the secondary above these, he enumerates twelve kinds, abounding in vegetable and animal petrifactions. The upper strata, formed by water from the rains, and abradings of these, are called alluvial.

The substances which compose granite, are felspar, quartz, and mica. The quartz is gray, and generally transparent, forming the grains of sand. Felspar is of vitrified character but of different colours, and when broken down forms the basis of clay. Mica is a dark gray, often decomposed by the atmosphere, and when worn down, it mixes with the clay of the felspar and the sand of the quartz. Various proportions and circumstances render them the bases of the secondary rocks which appear to be their ruins, and to fill up large original hollows, valleys, or cavities in them.

All minerals are earthy, saline, inflammable, or bad conductors of heat, and metallick, or heavy and coloured.

There are in minerals eight shades of white, nine of gray, six of black, five of blue, twelve of green and yellow, fifteen of red, and eight of brown; besides clear, dark, light or pale of those shades.

Minerals are compact solids, friable or crumbly; or fluid, as mercury or rock oil or tar. Their qualities are—1, Hardness; 2, Tenacity; 3, Frangibility; 4, Flexibility; 5, Adhesion; 6, Unctuosity; 7, Coldness; and 8, Density.

The first class, or earthy minerals, include eight genera; as diamond, zircon, flint, clay, talc, calc, barytes, and strontian. Of flint there are thirty-four species, of clay thirty-two, and of calc twenty.

The second class, or saline minerals, consist of only one genus, with ten or twelve species, as natron, nitre, rock salt, alum, &c.

The third, or inflammable class, includes five genera, as sulphur, bitumens, graphite, charcoal, and resin.

The fourth, or metallick class, includes twenty-one genera, as platina, gold, mercury, silver, copper, iron, lead, tin, bismuth, zinc, antimony, cobalt, nickel, manganese, molybdena, arsenick, &c. &c. Of copper there are seventeen species, of iron fourteen, and lead ten.

All substances on the earth, not of the class of neutral earths, are either acids, or alkalies, or combustibles, solid, fluid, or gaseous.

The Neptunian or Wernerian theory teaches that all the terrestrial formations arise from water; while the Plutonick theory ascribes the whole to fire. Perhaps both may be partly true; water as a constant, and fire as an occasional cause. But if combustion is the sole cause of water, then the Plutonists claim priority.

Mineralogical maps have been contrived by Humboldt; in which limestone is represented by straight lines, salt by straight declining lines, porphyry by waved lines, and granite by irregular points.

Granite lies under all other rocks; and when it forms high mountains, the other rocks and strata are piled against it, so that it is constantly the undermost.

Immediately above granite lies gneiss, or granite in strata; then mica-slate, and above that clay-slate; and mingled with these last is primary limestone, trap, and serpentine. These primary rocks consist of crystals.

Secondary rocks, consisting of gray-wacke and sandstone, appear to be depositions, and lie more horizontally; and in mountains of primary formation they terminate at lower levels. Gneiss itself is considered as debris of granite, which has settled on the granite, and the slates upon it, and less inclined.

The newer secondary rocks lying more horizontally on the older, are at lower levels; so that the older rocks basset, or display their edges higher and higher on the sides of a granite mountain.

Sienite is a middle rock between granite and porphyry, composed of felspar and hornblende, or quartz and black mica.

When large crystals of felspar appear in granites, they are called porphyritick. In Cornish granites, the felspar is white. In the Scotch, reddish brown.

Silica, the substance of sand, sandstone, flint, granite, quartz, &c. has a specifick gravity of 2.66. It has been imagined to consist of oxygen and a metallick base.

There are five species of quartz: amethyst, rock crystal, milk quartz, common quartz, and praise.

Felspar is composed of lamina or plates. Its constituents are silex and alumina, with some potash. It abounds in granite, gneiss, sienite and porphyry.

Serpentine is so called from its variegated colours, generally green. It consists of 32 silica, 37½ magnesia, ½ alumina, 10½ lime, with iron and carbonick acid 15.

Curved gneiss proves that it once was fluid. It is in slaty layers or plates formed of felspar, quartz, and mica, separated by thin layers of mica, and it contains in its veins all the metals.

Porphyry is stone with a compact base, intermixed with crystals. The base is of the trap kind, and the crystals felspar or quartz.

Hornblende is an extensive clay mineral, forming slates and part of primitive rocks, of a greenish black colour.

Jasper is found in veins of primitive rocks, or in nests of porphyry.

Flint contains 98 silica, 0.5 lime, 0.25 alumina, and 0.25 oxide of iron It is found between beds of calcareous rocks, but its origin is a mystery.

Gray-wacke is a coarse kind of slate, or grains of sand in a basis of slate.

Gypsum is sulphate of lime, supposed to be formed by the decomposition of iron pyrites, the acid from which has combined on the spot with lime.

Chalk is found only in the north of Europe, and chiefly in the British Islands. It is imported into eastern countries as a rarity and curiosity.

Alabaster differs from marble in containing sulphurick acid. There are three species, one of which is white, shining, and semi-transparent.

Pudding stone is rounded pebbles imbedded in cement, capable of being fashioned and polished.

Stalactitæ, or stalactites, are crystalline spar, which ooze from the earth over the tops of caverns, like icicles, often reaching the bottom, and forming solid sparry columns; and proving how similar oozings cement all lower strata by the gradual precipitation of cement from upper strata.

Portland stone is coarse grit, cemented with earthy spar.

Potter's clay is 43½ silica, 33 alumina, 3½ lime, 18 water, and 1 oxyde of iron.

Emery is a mineral of 4 specifick

gravities, containing 86 alumina, 3 silica, and 4 iron.

Soda is found in mineral seams, also in beds near Alexandria. The manufacturing chymists make it from common salt.

There are two substances called marl, one earthy and the other a stratum, but not hard. The earthy is used as manure, as well as the other found in beds, in limestone and coal formations.

In mining, from 8 lb. to 21 lb. of powder is employed for every cubick foot above it, according to the density of the soil.

Salt in Cheshire is produced from salt pits, and chiefly from salt springs. The district is in the line which joins the Severn, the Dee, and the Mersey, and doubtless once consisted of lakes flooded at every tide, which, drying at certain seasons and at low tides, deposited beds of salt from Droitwich in Worcestershire, through Nantwich, Middlewich, and Northwich to the Mersey; brine springs flowing over beds of salt, or rock salt being found at different places in the entire line.

Rock salt is found in Cheshire at the depth of from 28 to 50 yards, and the beds are from 1 yard to 40 yards thick, separated by clay or flag stones; the colour is reddish, and it is so hard as to require to be blasted with gunpowder. The largest mine is 330 feet deep and 20 feet high, supported by pillars of the salt.

The Droitwich springs contain one quarter of their weight in salt. It is said, that a stream of salt water runs 250 feet below the surface, over which is 140 feet of gypsum, the boring of which produces the spring.

There are extensive beds of salt at Lake Inder in Asiatick Russia, lat. 48° 30′, long. 69°.

Salt springs and others from inflammable gas, are found in China, in long. 101° 29′, lat. 29°, near Thibet. They bore the well through the rocks, and prepare the salt by firing the gas of others, so that one heats 300 kettles by gas fire.

The sea, if desiccated, would afford a bed of salt 500 feet thick, 100 for every mile.

Peat consists of black spongy earth and decayed vegetables.

Coal beds become unproductive in the vicinity of porphyry or granite. Each particular stratum preserves its own parallelism though often interrupted by dikes and slips which are filled up with clay, sand, and rounded stones, evidently swept into them by water, and some of them contain basalt. Coal appears to have been used by the Saxons, and some believe by the Britons. So long since as the revolution, London consumed 300000 chaldrons per annum.

Strata of coal are not continuous, but divided both horizontally and perpendicularly by dikes or chasms, by slips, hitches, and troubles, apparently produced by the drying of the strata and by the sinking of the rocks beneath.

A cubick foot of coal weighs from 75 to 80 lbs., and 27 equal to a ton per cubick yard, or 4840 tons to an acre, of a yard thick, and in proportion.

Carbureted hydrogen explodes in coal mines when there is one of gas to six or twelve of air, but at one to fifteen it merely lengthens the flame of a candle. Carbonick acid gas also abounds, but lying on the ground and first extinguishing candles, it is seldom fatal.

The coal mines, which in Staffordshire have been burning for 200 years, consist of pyrites, subject to spontaneous combustion. Water will not extinguish them, because when drawn off or absorbed, the pyrites burn more than before.

Newcastle obtained the first charter to dig coals in 1239, and in 1281 the export was considerable. In 1825, the produce was three millions of tons, and employed 70,000 persons, with a capital of two or three millions.

The coal fields of England run from the Tay to Bristol, in length 300 miles, and from 20 to 120 broad. They lie in the floetz or new secondary rocks, and in the upper series or newest floetz, but chiefly in the former.

The coal strata or independent coal formation consists of sandstone, white and gray, or reddish, slate-clay, fire-clay, iron stone, and green stone.

Unlike the primary and secondary

rocks, they are generally horizontal or nearly so. They vary from three degrees to twelve, or from one to four feet in twenty.

At Newcastle, the bed two yards thick is 150 yards deep, and though there are eight beds above this, the thickest is but one foot, and the whole are but five feet. Thirty-three yards lower a bed of a yard presents itself, and fifty yards lower one of thirty-nine inches. Nine yards lower another of thirty-eight inches, and eleven yards lower, or 270 yards, a bed of two yards. Altogether there are sixteen beds in 270 yards depth, equal to eleven yards. The intervening strata are sandstone or slate clay, in one place but four feet, but in another 120. Hence, if coal beds are decayed forests, covered by the sea there must have been sixteen inundations, and other beds are found lower to the depth of 1000 yards, while Scotland presents twenty-four beds in 233 yards. These beds then afford evidence of twenty-four revolutions of the perihelion, or confer an age on the world in this coal-forming period of 24+20900, or 501600 years. Through the whole of the strata, animal and vegetable remains are found. In the mean time the globe must have been enlarged, if forests grew 1000 yards below the present level.

In Staffordshire there are but thirteen beds, but the depth is but 107 yards, and there are twenty-three yards of the 107. The first occurs at sixteen yards of ten feet thickness, and three others of twenty-three feet, separated only by a few inches of bituminous stone. The lowest at 105 yards is seven feet and a half. The intervening strata are sandstone and clay, just as in other coal beds.

Newcastle exports from 5 to 600000 chaldrons of coals of 53 cwt. each, and nearly as much is shipped from Sunderland, Teignmouth, Wearmouth, &c. The beds are calculated to maintain this consumption for another 300 years, having maintained it to half the extent for an equal past period.

Duties on coals in the port of London are 9s. 4d. per chaldron, and to other ports 6s. The London duties are from 560*l.* to 600000*l.* per annum. 28000 tons, or 31 million cubick yards of fresh coals are raised per annum.

Newcastle coals cost, at the pit's mouth, per chaldron of 27 cwt., or 12 bushels, 14s. for Wall's End, and 12s. for Eden Main. The charges for conveying to the ship, loading, &c., are 4s. 9¾d.; the freight to London 11s.; the government duty 6s.; the city dues 4s. 9½d.; and the charges of unloading, measuring, and delivering at the cellars of consumers, are 13s. 7d.; making 2l. 12s. 11¼d. per chaldron.

Newcastle ships a million and a quarter chaldrons; Sunderland three quarters of a million; Wales about 180000; Whitehaven 200000. Newcastle and Sunderland also export about 120000 chaldrons

Every family in England and Wales is considered as using, on the average, six chaldrons of coals, which makes the annual consumption about fourteen million chaldrons.

The steam engines and gas manufactories consume about six millions of tons more, making a total consumption of about twenty-two millions of chaldrons or tons. The weight of the wholesale chaldron is, however, 28 cwt., and, therefore, the gross consumption will not be overrated at twenty-five millions of tons.

The apprehension of failure is a delusion: some of the most extensive coal districts being little worked, owing to the impolitic Newcastle monopoly. In Yorkshire there are exhaustless beds, which are sold at 4s. or 5s. per ton.

As coals are sold by measure, and small coals measure more than large ones, so the large masses drawn from pits near Newcastle are broken up by all the dealers before they reach the consumers. The difference is twenty, thirty, and fifty per cent.; and hence the merchants will receive no small coals, and they are obliged to be burned on the spot to destroy them.

The Netherlands are rich in coals, and vast quantities are produced in the tracts between the low countries and the present French frontiers.

At Barbadoes, asphaltum dug in the island is used instead of coal. Trinidad there is a pitch lake or

cape, and three miles round, and of uncertain depth. It lies in furrows or chasms constantly changing, but is so hard as to require to be broken with an axe. The district near consists of cinders and burned earth, and for a large extent appears to be of volcanick origin. By analysis, the asphaltum appears to consist of stone saturated with pitch. It is very inflammable, and is considered as a result of the changes from naphtha and petroleum, into tar and pitch by successive decompositions.

Magnesia is obtained from magnesian limestone with the bittern of salt manufactories. The muriatick acid of the salt unites with the lime, and affords the magnesia. Exposed to the air it absorbs, in time, carbonick acid; becoming lime again, and unfit for medicine. It has been found pure in New Jersey.

Magnesian limestone effervesces little in acids, and it renders dilute nitrick acid milky. It contains about 20 magnesia, 30 lime, 48 carbonick acid, and one of clay and oxyde of iron.

The smell in lime-slacking arises from the ascent of part of the lime, with the aqueous vapour.

Limestone, marble, and chalk, by burning, form lime, which does not unite with alkalies or oxygen, and only with sulphur and phosphorus among combustibles and their and other acids. In becoming mild, it renders insoluble matter soluble, and hence its use as a manure under due caution.

Puzzolana is decomposed lava. Tarras is decomposed basalt, mixed with two parts of slacked lime.

In 3½ years mortar regains its definite proportion as carbonate of lime, or 63 per cent., from the carbonick acid gas in the atmosphere.

One bushel of coals makes four or five of lime, and magnesian limestone less; while this last loses half its weight.

In Bundelcund there are diamond mines, in a range of hills near Pannah. One of them produced the largest known diamond, and they are still moderately productive. They lie six or seven hundred miles from Calcutta.

The two largest diamonds in Europe are that belonging to the Emperor of Russia, which weighs 195 carats, or 1½ oz. troy; 90000*l.* was given for it, and an annuity to the merchant of 4000*l.* per annum. The other is the Pitt diamond, which weighs but 136 carets, for which, in 1720, 100000*l.* was paid by the court of France. Diamonds are imitated by combining one half red or white lead, with silex, potash, and some borax or arsenick.

Emeralds are green, and prismatick or rhomboidal. The beryl is an inferior species. The prismatick, is one-third silica, and one-fifth alumina; and the latter, or best, two-thirds silica to one-sixth alumina.

The oriental garnet is red, and the common garnet brown or green, of the size of a pea or larger. They are found in primitive rocks.

The hardness of precious stones is in the following order: Diamond, ruby, sapphire, topaz, hyacinth, emerald, garnet, amethyst, agate, turquoise, and opal.

Amber is a mineral substance, white or yellow. Its oil is used in *eau de luce*. When rubbed it becomes negatively electrical, like sealing-wax. It is a vegetable gum; but some have considered it as honey converted into bitumen. Some pieces contain insects and leaves of unknown species, of the age of organick remains.

From 150 to 200 tons of amber are found annually in the sand on the shore between Pillau and Polungen. It is also there in beds of pit coal.

Pits of fuller's earth are found in Bedfordshire. There lie over the stratum several strata of red sand, six yards thick; then a stratum of sandstone seven or eight yards; then other sands; then the fuller's earth. Below it is white free-stone, and below that sand again.

Blasting is used for the hardest limestones, green stone, basalt, sienite, gneiss, and granite.

The Earths are silica, lime, alumina, magnesia, with barytes, strontites, glucina, zirconia, yttria, and thorina.

Soils are divided into clay, clayey

loams, rich loams, sandy loams, sand, peat-earth, chalk and gravel; and in grass each sustains particular kinds best; in the rotation of crops each requires different succession, and demands different kinds of manure and treatment.

Soils consist of silica, lime, alumina, magnesia, oxydes of iron, and animal and vegetable remains; and on the union depends fertility, for too great an excess of one renders soil barren. Bulbous and tap roots grow where sand predominates; but fibrous roots require more clay and firm substances.

Metals are considered as undecomposable substances, yet those that are inflammable must evidently contain hydrogen. They are twenty-three in number as under:—

	Specifick gravity.
Platinum	23
Gold	19.376
Silver	10.5
Mercury	13.57
Palladium	11.87
Rhodium	11.
Copper	8.8
Iron	7.7
Nickel	8.8
Tin	7.3
Lead	11.4
Zinc	7.19
Bismuth	9.85
Antimony	6.712
Tellurium	6.115
Arsenick	8.31
Cobalt	7.7
Manganese	8.013
Cromium	5.9
Uranium	9.
Molybdenum	8.611
Tungsten	17.6
Titanium	4.2

Metallick veins in rocks have the appearance of being exudations from the substance of the rock; a brown vein proves the presence of iron, and sometimes of tin; straw colour of lead; green of copper. Silver is only discovered among certain classes of limestone.

When the dislocations or fractures of strata are filled with stones or earth, and the separations are wide, they are called *faults* or *dykes;* and when filled with metallick ores they are called veins. In these last are found the ores of metals separated from the rocks by gypseous spar, quartz, clay, or earth, called the matrix or rider of the ore. When the veins are not filled up with matrix, the ores are crystallized round the cavity. The ore also contains sulphur, arsenick, and earthy substances, besides different metals, which are separated by washing, roasting, reducing, assaying, &c.

Ores are always found as alloys, sulphurets, oxydes, or salts. Gold, platinum, and columbium are found only as alloys. Silver, mercury, copper, iron, antimony, arsenick, and cobalt, in the four states. Lead and zinc, in the three last. Others various, in two or three states; and tungsten, uranium, titanium, chromium, and tantalium, only as oxydes.

Metals have five degrees of lustre—*splendent, shining, glistening, glimmering, dull.*

Gold is yellow, copper red, iron gray, lead blue, and cobalt and manganese gray; all the rest are white.

Iron, manganese, tungsten, and palladium are the hardest of the metals; the next in hardness platinum and nickel; the next are copper and silver; and the next cobalt, antimony, zinc, tin, and gold.

In the earliest ages no metals were used but those found pure, as gold, silver and copper. The smelting of ores was a comparatively late invention, and ascribed both to observations on volcanoes and to the burning of forests.

Lodes and mines are by many supposed to have been passes of streams of water choaked up; and in most mines such streams still remain. In Cornwall they run from east to west; but in other countries they often run from north to south. The tests of a probable mine are mineral waters, trees or grass discoloured, metallick ore or sand, and the products of boring.

One million ounces of gold are supposed to be produced annually.

The obtaining of gold in mining countries costs about fifteen times as much as silver; and this cost affects the future price in the market in that proportion.

Gold is so malleable that it may be beaten into leaves of which

280000 would be but an inch thick, and so tenacious that wire but the thirteenth of an inch in diameter will suspend 150 lbs. Gold is too soft to be used pure, and to harden it it is alloyed with copper or silver. In its pure state, gold bullion is considered as twenty-four carats, and then it is sold by the number of carats of pure gold, and gold of twenty-two carats is that used in our coin; two parts of which are copper. Gold plate is about eighteen carats or one-fourth copper.

The hundred-thousanth part of a grain of gold may be seen by the naked eye, and a cube of gold whose side is but the hundreth of an inch, has 2433 million of visible parts. A cylinder of silver covered with gold leaf may be drawn out 350 miles long, and yet the gold will cover it.

Gold leaf can be reduced to the 300 thousandth part of an inch, and gilding to the ten millionth. Silver leaf to the 170 thousandth. The specifick gravities are 193 to 195.

Kelly's Cambist.

Lace gilding is the millionth of an inch thick; gold leaf the 200 thousandth. Platina wire may be the 50000th of an inch. 500 inches of gold wire has been drawn from a grain. Tin-foil is the one thousandth of an inch; that is, 200 gold leaves are only equal in thickness to one of tin-foil.

A mass of 25 lbs. of pure gold has been found in Siberia.

Silver leaf breaks at the 160000th part of an inch, or three times the thickness of gold leaf. It tarnishes from sulphur, and dissolves in sulphurick and nitrick acid.

Silver can be beat into plates, of which 110000 make an inch, and drawn into wire, of which the thirteenth of an inch will sustain 137 lbs.

The weight of an ingot of silver is from 50 to 60 lbs. and the weight of an ingot of gold is 15 lbs. troy.

The quick-silver mines in Carniola are the most productive in Europe, and have been explored 900 feet deep. The mercury is found in clay, stones, and it often issues from the rocks spontaneously. The mines yield 12000 quintals, or 1200 tons weight per annum, and yield a million of florins to the imperial revenue; and half the quantity of native cinnabar. Till within fifty years all the steel used in English manufactures was made in Carniola from the iron with which it also abounds. Trieste is its port.

Mercury is found in combination with sulphur, as cinnabar in Austria and Mexico, and sometimes native.

The platinum of commerce is found in the Spanish mines in South America in grains, which appear to be a compound of eight several metals: as palladium, rhodium, irydium, osmium, &c. A platinum wire of the thirteenth of an inch will suspend 274 lbs.

Iron, as well as glass, was accidentally discovered by a fire made of iron stone in one case; and of lumps of natron and silicious matter in the case of glass. The Greeks ascribe the discovery of iron to themselves, and referred glass to the Phœnicians, but Moses relates that iron was wrought by Tubal-Cain, Noah's brother.

The iron stone is known to practical men by its weight and other characteristicks. But no iron is visible in the fracture. It is as easy to believe that it is then formed from primitive atoms, as to conceive that it is an oxyde of what never existed in a native state to be oxydized.

An iron wire the thirteenth of an inch in diameter suspends 549 lbs. The air oxydates it in the red or yellow powder called rust. It burns brilliantly in oxygen gas. The black oxyde of iron contains 79 iron and 21 oxygen. The red oxyde or per oxyde is obtained by putting red hot iron filings in an open vessel and agitating them till they produce the common red paint. It is the oxyde which produces the red colour of bricks and clays. It is 69 iron and 31 oxygen. Carbonate of iron, or iron and carbon, is black lead, or 19 parts of carbon and one of iron. Phosphuret of iron is called syderum.

The ores of iron, or iron stone, are considered as mixture of clay with oxyde of iron. They are mixed with charcoal and lime in a large furnace, and the oxygen combines with the charcoal, and the clay with the lime, by which the grains of iron are sepa-

rated and melted, so as to run out in a fluid state at the bottom of the furnace. It is white, gray, or black, and when cool has a density of 7.5.

This cast iron is then converted into bar or wrought iron by being melted in charcoal, and ashes with scoria of iron, and by repeated forging it becomes malleable.

Bar iron is then converted into *steel* by being stewed while red hot with charcoal for three to seven days. It is then cast in ingots, and its specifick gravity becomes 7.8, and in chymical language it is subcarburet of iron.

Cast iron is a supercarburet of iron; and wrought or soft iron is the simple metal divested of foreign materials.

These several conversions employ 69 thousand men in the largest and most imposing manufactories. The mines which afford iron stone employ great numbers. It is then roasted or burned; afterwards exposed to great heat in immense furnaces excited by vast bellows wrought by steam engines. The casting is then a curious process into pigs or ingots, or utensils of all kinds. The puddling, forging, and tilting, then call for machinery of gigantick size. Then follows the steel conversion, and finally the cutler.

The best steel used in British manufactures is made from Swedish iron, of which there is used about 10000 tons annually. One of the principal establishments in England for converting Swedish iron into steel, is that of Nayler and Sanderson, of Sheffield. They make most of the fine steel which is made into cutlery in that town at the celebrated manufactories of Rodgers, Picksley, Champion, and others.

Iron furnaces among the Romans were unprovided with bellows, but were placed on eminences with the grate in the direction of prevailing winds. Blasting bellows are now the most colossal structures in the entire range of manufactories, some of them being of such sizes as to be wrought by a steam engine of eighty horse power, and their roar on entering the fire may often be heard for miles. The object of all such contrivances is to keep up a supply of oxygen gas, which being fixed by the hydrogen evolved by the fuel, its motion is transferred to the ore which is to be swelled and de-oxydated, while the lime which is mixed with the ore melts and combines with the argillaceous substance in which the iron is imbedded. Experiments have lately been made to add to the power of the air driven through the bellows, by previously heating it. In the largest class of blasting bellows the blowing cylinder is eight feet in diameter, and it discharges twenty four cylinders per minute, or nearly 12000 cubick feet of air with the force of 3 lbs. to the square inch; but, in general, one engine operates on different furnaces with 3 or 4000 cubick feet of air per minute. A single furnace thus smelts from forty to fifty tons of pig iron daily.

In twenty-four years the imports of bar iron have varied from 32000 tons in 1806, to 15000 in 1828, while the re-exports in 1806 were 5000 tons, and in 1828, 3000 tons. The market prices were, in 1806, from 15*l.* 10*s.* to 18*l.* 10*s.*; and in 1828. 13*l.* 10*s.* to 18*l.* 10*s.* The duty is 30*s.* or from Canada, 20*s.*

There are about 700000 tons of iron made per annum by nearly 300 furnaces, of which ninety are in South Wales and 95 in Staffordshire, &c.

In 1740, the quantity was but 17000 tons from fifty-nine furnaces. The imports from Sweden are 15000 tons.

The quantity of iron converted in the United Kingdom by 278 furnaces, was, in 1828, about 735000 tons of pig iron, which yield two-thirds of wrought iron, or about 545000 tons, of which 150000 are exported in bars, hardware, and arms. 50000 tons of old iron are also manufactured.

Of the quantity of iron, South Wales produces 279¼ thousand tons, Staffordshire 219¼, Shropshire 81¼, Scotland 37¼, Yorkshire 33, Derbyshire 22¼, and North Wales 25. The quantity has increased 100000 tons per annum.

50000 tons were exported in 1814, at a declared value of 1143357*l.* and 100000 tons in 1828, at a declared value of *only* 1226820*l.*

In 1740, according to Marshall, the pig iron was but 17000 tons; in

1788, it was 68000; in 1796, 125000; and in 1828, five times more.

The United States, in 1828, took 4822 tons of cutlery, being above half our exports.

Colubrook dale is a winding glen between two hills, about eight miles long and two broad. It supplies iron ore, coal, and lime, to some of the largest smelting and casting establishments in the kingdom. Iron stone china is also made here, and it has been for many years a seat of astonishing production.

The steel and iron factories at Pittsburgh consume 11000 tons per annum; 3500 in castings, and 7500 in rolling. 18 tons of nails are made daily, and there are seven steam engine factories. The iron is made at Juniata.

All the iron smelted from ore in England, and used or exported, is equal to a cube of forty-six yards; and all the materials extracted to make it, and the iron, would make a solid of 162 yards, or the 1500th of a cubick mile, consequently iron miners would be 1500 years in disembowelling a cubick mile of iron stone, lime, and coal, taking the whole as forty times the bulk of the produced iron.

Daunemora is the largest iron mine in Sweden, and Fahlun is the greatest copper mine in that kingdom of rich mines. The ore forms a large vein in a hill, thirty miles from Upsal. It is wrought to a considerable depth by blasting, and the ore affords 50 per cent of cast iron. It is the iron which is converted into steel at Sheffield, and known by its mark of three balls. Its superiority in England is ascribed to its being smelted with wood instead of coke.

It is ascertained that in regard to the blasting bellows in iron works, that hot air passed through the bellows produces thirty-six tons of iron No. 1, in eleven castings, and that cold air produces but thirty-three tons, chiefly of No. 3. The effect appears to be occasioned by the pre-existing power of the heated air, by which the power of the bellows is augmented.

Copper wire the thirteenth of an inch will sustain 302 lbs. Copper pyrites is a native sulphuret of copper. Silver coin contains one thirteenth of copper.

The great Swedish copper mine at Fahlun yields from the ore but one and a half per cent., and has the appearance, says Thomson, of iron pyrites. It is a vast open cone. It has been worked for 5 or 600 years, and when most productive yielded 8 million lbs.

Parys mountain in Anglesea has yielded from 40 to 800000 tons of ore annually, of which 25 per cent. was sulphur, and from 25 to 1½ per cent. copper. In the stratum over the ore is sulphate of lead, which yields 40 per cent. of lead and 57 ounces of silver for every ton of lead. There are two mines, the Mona and Parys.

Cornwall is the most productive and celebrated of the mining districts of Great Britain. The mines run from St. Austle westerly to St. Agnes, by Redruth to St. Ive's Bay, and on the surface it is a dreary district. The country also abounds in granite, with various proportions of felspar, quartz, and mica. The mines are tin, copper, and lead; and in strata of schistus and granite. The tin is calciform and glass-like, the matrix argil or silex; and the world has been supplied with this metal from hence since the days of the Phœnicians. Copper, now so important a product, was not produced here till the Revolution. The ancient workings on the eastern coast are exhausted, and the present produce is 25000 blocks, worth 10*l.* or 12*l.* each. Tin oar is the heaviest, but easily melted. The Huelor mine is 840 feet deep and spreads 1¼ miles, employing 1300 people. All the mines employ sixty steam engines, some 1000 horse power; and their average duty is 34. 85 millions of pounds one foot high, per bushel. The Poldice mine yields a thousand blocks; but as copper follows the tin, many of them now are copper mines, from ore of pyrites and sulphur, all among granite, and inclined from 60° to 76°. The entire produce is about 4700 tons, worth now but 7*l.* or 8*l.* Crennis, Huel, Alfred, and St. George's, are the most productive at present. Near Helstone there are two lead mines, and at Endillion one of antimony. Gold and silver are also found, as well as bismuth, asbestos, and lapis

calaminaris. The Tintagel slate pit is 300 yards long, 100 broad, and 80 deep. Moor stone, or granite, slates, and china stone, or steatites, for fine pottery, are also sources of wealth, and the whole employ from 12 to 15-000 people of all ages.

In Cornwall there are about fifty copper mines, thirty tin mines, twenty copper and tin, five silver and lead, three cobalt and antimony, and two of manganese. Tin and copper exist in veins and fissures called lodes, one side granite and the other clay, in lines from east to west, occasionally in layers. It is cast into blocks from 3 to 4 cwt.; and then assayed at Cornwall, Lestwythiel, Truro, Helston, or Penzance. The produce per annum is about 25000 blocks, averaging 3 cwt.

A lead wire, the thirteenth of an inch sustains 28 lbs.

The Stannaries are the tin and copper mines of Cornwall.

The copper mines of England, chiefly in Cornwall, Anglesea, and Glamorganshire, yield about 16000 tons.

The lead mines in Derbyshire, Cumberland, &c. yield about 15000 tons per annum.

A tin wire the thirteenth of an inch sustains but 34.7 lbs.

Manganese has so great an aptitude to combine with oxygen, that, on being exposed to the air it absorbs so much as to fall into powder; if thrown into water it decomposes, the water becomes green, and is found to have absorbed 0.15 of oxygen. If this be exposed to the air it turns brown, and is found to contain one-fourth oxygen. In a native state the oxyde contains four-tenths. From this cause the native black oxyde is used to obtain oxygen gas, which may be expelled by heat. The red oxyde of iron contains 0.41 of oxygen: arsenick acid one half; and red chromium double.

Zinc wire sustains 110 lbs. and if heated above boiling water, it may be rolled very thin, and drawn into wire. At a red heat it inflames, and disperses in flakes. It amalgamates with most of the metals, making a sort of paste.

Galena is the native sulphuret of lead, and often contains antimony silver, and zinc.

Selenium is a new metal obtained by Berzelius from the pyrites of Fahlun. Its specifick gravity is 4.32, and it is a deep brown.

Cadimum is another metal in union with zinc, with a specifick gravity of 8.604, and of a gray colour.

Wodanium is gray, and 11.47.

These are new metals and very different from the factitious, evanescent globules procured by Davy from galvanick combination with alkalies. They make the number thirty.

Magnetick pyrites is a sulphuret of iron, 63 iron and 37 sulphur, and called loadstone. Super-sulphuret of iron is the common iron pyrites, 47 iron and 53 sulphur.

Gun metal is 12 lbs. of tin and 100 of copper.

Bath metal is 2 lb. of brass and nine ounces of zinc.

Quartz is a sparkling stone, very abundant, from the common pebble to mountain veins and entire rocks. Its crystals, when pure, are rock crystal: purple-coloured are called amethysts, and yellow, topazes.

Felspar, next to quartz, is the most abundant stone; being a constituent of granite and other rocks. It scratches glass, and gives out sparks with steel; but is inferiour to quartz in hardness. It is the petuntse of the Chinese, and the vitrifying ingredient of their porcelain.

Silex is a stone sufficiently hard to scratch glass—sparkling, but never in crystals. Common flint and light-coloured pebbles are wholly of this stone.

Calcareous spar is crystallized carbonate of lime, one of whose purest varieties is Iceland spar.

Iceland spar, the substance which produces double images, consists of 56 lime and 44 carbonick acid, with a specifick gravity 2.714. The faces are parallel, and inclined 105° 5', but even and polished, splitting always on the face. From this cause it produces a double image, a direct one, and another which is the result of all the reflections from all the surfaces, which being regular, p oduce a definite effect. The same property

is possessed by all transparent bodies, made up of little regular cubes, and the extraordinary ray is a result of the regular reflections at a definite angle from all the surfaces. In glass, water, &c. there is no such set of surfaces; and the light is, therefore, diffused through the mass, producing no regular secondary ray, only a general luminosity.

Agates are aggregates of different species, as quartz, flint, amethyst, &c. differing in colour and transparency, but sliding into one another by imperceptible gradations. Mocho stones containing little stems of moss, and variegated Scotch pebbles, are agates.

Glauberite is a crystallized salt, composed of nearly equal parts of sulphate of lime and sulphate of soda, without water. It is found among the rock salt of South America.

Analcime, or cubizite, is found in grouped crystals, deposited by water in the fissures of hard lavas. It melts under the blowpipe into semi-transparent glass.

Zircone is a hard transparent stone, susceptible of a fine polish, and has a double refraction. It has two varieties, hyacinth and jargon; the former yellowish-red, and the latter without colour.

Tabasheer is a transparent fluid in the joints of the bamboo. It thickens till it is converted into a white solid, and is composed of silica. Humboldt discovered it in the bamboos of South America; and a solid pebble is so hard as to cut glass.

The Emerald is ranked among the gems, but is now found only in Peru. It is green, harder than quartz, and always in crystals. Oriental emerald is a green sapphire.

The Beryl is a variety of the emerald, of a paler green or blue. The emerald of Brazil is a tourmaline.

Corundum is a stone found in India and China, which in crystals, is a six sided prism, and called adamantine spar.

The Amethyst, Ruby, Sapphire, and Topaz, are varieties of this spar, differing chiefly in colour. The amethyst is reddish violet; the ruby red; the sapphire blue; and the topaz yellow:—termed oriental gems.

The tourmaline is hard enough to scratch glass, and becomes electrick by heat. It is transparent when viewed across the thickness of its crystal, but opaque when turned in the opposite direction.

Apophyllite, or fish-eye-stone, has a pearly lustre, like moonstone, and its crystals are various.

Leucocyolite is a name given to a variety of apophyllite.

Cairngorm is a species of quartz.

When fluids evaporate and become solid, or when they freeze, they generally solidify in regular figures called Crystals, sometimes cubes, or four-sided, six-sided, eight-sided, or twelve-sided figures, terminated by ends always regular. The separation and analysis of these figures reduces them to six primitive forms. 1. The parallelopiped, with six parallel sides, of which there are forty species of minerals. 2. The octahedron consists of two four-sided pyramids, joined at the base, and contains thirty species of minerals. 3. The tetrahedron consists of four equal triangles, and belongs to only two minerals, ores of copper.

There are from 12 to 1500 different crystals; and one observer has described 642 crystals of carbonate of lime.

The crystals of congealing water shoot at an angle of 120°. When solutions freeze it is the water in them that freezes and the foreign substance is entangled or sometimes separated.

When water solidifies into ice, its crystals cross each other at angles of 60°, and enlarge the bulk nearly an eighth, with such force as to explode rocks, trees, and even pieces of artillery.

Mica and tale are prisms with rhomboidal bases, with obtuse angles of 120°. Felspar is an oblique quadrangular prism, with a parallelogram. Sal ammoniack takes the form of octahedrons and cubes; and fluor spar of cubes. The diamond is often in the octahedron form, but it varies.

Mica is found in such large plates

in many mountains, as to be used as a substitute for glass, being semi-transparent, tough, flexible and elastick. In Siberia, some specimens are 2½ yards square.

Certain bodies, when passing from the fluid to the solid form separate into portions or crystals, assuming a determinate angular shape. It is a species of congelation; and ice was called *crystal* by the Greeks.

Some crystals are rhombs or rhomboids, because they are solids whose faces have those figures, and are rhomboidal solids. Others are described by the number of their sides or faces. One with four faces is called a tetrahedron; with six, a hexahedron; with eight, an octohedron; with twelve, a dodecahedron; with twenty, an icosahedron; and one having many sides, is a polyhedron A cube is a hexahedron.

Rochelle salt crystallizes in large regular eight sided prisms.

Gold, silver, and copper pyrites, and salt, crystallize as cubes. Calcareous spar (angle 105°), quartz, emerald, and tourmalin crystallize as parallelopipeds, with rhomboidal sides, i. e. with unequal angles. Diamond, the magnet, antimony, and bismuth have the regular octahedron form; calomel and topaz, the same form with right angle bases. Sulphur and carbonate of soda the same in two pyramids with rhomboid base. Emerald and cinnabar have six-sided prisms.

Hauy, in his theory of crystallization, conceives that all the forms may be produced by atomick molecules of three species. The tetrahedron, the triangular prism, and the parallelopiped, of four, five, and six sides: and Wollaston conceives that even these figures may be formed by piling spherical atoms, which he considers the fundamental form.

The six-sided prism consists of six equal right angled sides with a six-sided base; seven pieces of mineral are of this form.

The dodecahedron, of which there are two figures; one the rhomboid and the other the triangle. Two minerals have rhomboid sides, one of which is garnet, and two only the other.

Gold and silver crystallize in four-sided pyramids: copper the same: tin in rhombodial prisms: lead in four-sided pyramids: zinc the same: bismuth in four-sided parallelopipeds: antimony in oblong perpendiculars: arsenick in tetrahedrons.

In crystallizing, fluor, spar and common salt make cubes. Nitre a six-sided prism, and sulphate of magnesia a four-sided prism.

The *diana arbor* is a tree like crystallization of silver and mercury in nitrous acid.

Common salt dissolved in viscid liquids crystallizes like the leaves and branches of fir.

Goniometers are delicate instruments for measuring the angles of crystals, and a very accurate one has been invented by Dr. Brewster.

A nail-maker has made by hand 17030 flooring nails in a week. Each nail takes twenty-five strokes with a 2 lb. hammer, and from one to three blasts with bellows.

Naphtha is purer and lighter than the petroleum of coal, of which it seems to be a native species.

Putty is oxyde of lead, or whitening and sweet oil.

Ochres are earths and oxydes of iron.

Earth is eaten as bread in several parts of the world. Near Moscow, a hill furnishes earth of this description, which will ferment when mixed with flour; in Louisiana, the Indians eat a white earth with salt; and the Indians on the Oronooka eat a certain unctious earth in like manner.

MOUNTAINS.

The old continent may be considered as having for its nucleus an immense chain of mountains, which stretches 8000 miles from east to west, under various names. In Europe, it bears the names of Pyrenees, Alps, &c. and in Asia; Caucasus, Himalaya, and Thibet, and Tartary, till it reaches the Pacifick Ocean. Atlas is part of this ridge; and Etna and the Greek mountains are

branches of the general chain. The heights are various; or in Europe from 6 to 15000 feet, and in Asia from 10 to 28000. This ridge, then determines the general form of the continent, and the course of the rivers. Some call it the spine of Europe and Asia; while the Andes in America, are called the backbone of that continent.

The countries to the north and south are governed in their elevation by their connexion with this great chain: some are its valleys, and others are table lands or steppes, all sustaining different levels from the sea. Italy is merely the declivities of the Appenines, and Barbary of the Atlas chain; and Bohemia is a circular valley, and Hungary another. Asia Minor is an elevated plateau; Persia is also a high plateau depressed in the middle; Thibet is a vast plateau, more extensive and more elevated, sustained on one side by the Himalayas, and on the north by the Altai mountains, both 20000 feet high, while the immense plateau is 9000 feet. The tract northward of the mountain chain is a vast plain, which includes England, France, Holland, Germany, and Russia to the Ural chain, so level that it has been said a ball with sufficient force would roll from Paris to Petersburgh; the whole is a flat between the sea and the mountain chain, descending to Holland and the shores of the Baltic. All the rivers run from the chain to the German, Baltic, or Northern Ocean. But the Danube and Wolga, filling up the basin of the Black Sea, also concurs with the Nile, to fill up the valley or great basin of the Mediterranean.

South of the great chain, the deserts of Africa and Arabia, and the plains of India present themselves; and the rivers, the Indus, the Ganges, &c. fall, with the land towards the Indian and Southern Ocean.

The Southern Ocean itself is an extraordinary phenomena: it covers a third of the earth, and bounds have been set to its encroachments by pointed capes, whose foundations are connected with the granitick base of the earth. Its disposition to encroach on the land is evinced by the acute angles and mountainous character of all the promontories which present themselves to it; while in the north, the passive character of the ocean is evinced by the obtuse forms both of Asia and America. The elevated land of the old continent occupies a space equal to five millions of square miles.

In America there is a similar mountainous ridge, of which all the habitable land is the declivity. It begins in the Rocky Mountains and the Alleganies, in lat. 45, and extends to the Straits of Magellan; but it differs from the other great chain in being from north to south, owing to which its great rivers run from west to east, except the Mississippi, the Missouri, the Ohio, the Paraguay, and the Parana.

The greatest elevations are in the torrid zone, and are from 20 to 28000 feet; those in the temperate zone are from 12 to 16000; and those in the frigid, only from 5 to 6000. The elevation of perpetual snow varies with the heat of the surface. Near the equator it is 15700 feet; within the tropics 15000; in the temperate zone 8600; and in Norway from 4500 to 5000. Under the equator the fertile plains of Quito are 9500 feet above the level of the sea. The town of Riobamba is 10700 feet; and the city of Mexico enjoys a fine climate at 7500 feet; while in Europe, &c. the hardiest pines grow only at that elevation: and in the frigid zone, only at the height of 500 feet.

The Andes chain is 4600 miles long from the Straits of Magellan to the Gulf of Darien, about 100 miles from the shore of the Pacifick, and of an average height of 1½ mile from the level of the sea. In truth, the same chain runs through Mexico and to the Rocky Mountains of North America and the Alleganies in New England. It is a sort of buttress against which the whole American continent leans, and the nucleus of its formation by the washing of the hills, and the working of the ocean. They are chiefly composed of clay slate, on which lies limestone and iron sandstone, while the loftiest are the newest porphyry, with little visible granite. The clay slate is supposed to be volcanick, as volcanoes are numerous, and they exude mud and clay, which in thousands of years become clay slate, and hence

organick remains at heights of two miles.

Mont Blanc is the highest of the Alps, and in Europe. It is 15600 feet, or three miles above the level of the sea. Snow lies constantly on its sides 12000 of these feet. The summit is a narrow ridge, like the roof of a house; its uppermost rocks consist of strata of granite, nearly vertical. De Saussure at the top, on the 3d of August, found Fahrenheit 27°, while at Geneva it was 82°; the barometer fell to 16.02, while at Geneva it was 27.2: and the air contained six times less humidity than at Geneva. Respiration was difficult and sounds very feeble; and the pulse was increased to nearly double. Many perish in attempting to ascend it. To the dryness of the air Saussure ascribed his extreme thirst.

The Caucasian Mountains lie between the Euxine and the Caspian. The story of Prometheus is referred to these mountains; and probably it arose from the fires at Baku, in their vicinity. They are from 3 to 400 miles long, and about 200 broad, consisting chiefly of granite and limestone, and their tops are covered with snow and ice, the lower parts abounding in rich minerals. Elburouse, the highest, is 16800 feet; and the people say it is the residence of the king of the hobgoblins. The valleys are exceedingly fertile, interspersed with noble forests. There are also several hot and mineral springs of remarkable character. Strabo says the inhabitants speak seventy languages; and modern discovery proves that there are an astonishing diversity. Among them are the Circassians, called the Adege, and the Cossacks, so effective n the Russian army. The whole tract is now absorbed in the Russian empire.

The Altai Mountains are 5000 miles in length, in Siberia, and often as high as the Alps.

The Dofrine mountains in Scandinavia run from 8000 feet to 6000, but are chiefly remarkable for the richest mines in Europe.

The Carpathian mountains in Hungary are 4 or 5000 feet high, and contain the richest known copper mines as well as iron, lead, gold, and silver.

The Appenines are from 4000 to 6000 feet high, and covered with woods and pastures to their summits. Large tracts of the valleys are very fertile, but others emit sulphureous vapours, and have become desolate, owing to the cupidity of the great land proprietors, who in past ages demanded higher rents than the farmers could pay.

The peak of Teneriffe presents five zones of different vegetation: for 7 or 800 feet it produces vines, corn, olives, &c.; the second zone produces myrtles and trees, the third chiefly pines, the fourth and fifth produce little vegetation and are very cold; the upper part is covered with pumice stones and lava. In the middle is a cone, and on the top of it a crater 300 feet long and 200 broad, and of evident antiquity, such that Humboldt conceived it had not been in action for some thousand years. The whole mountain appeared to be volcanick, and its recent eruptions have been made from the sides.

The highest peak of the Rocky mountain is 12500 feet, and James's Peak is 12000 feet. Mount Washington in New Hampshire is 6634 feet.

The European mountains consist of primitive and transition rocks.

Mount Carmel, so often referred to in the Jewish histories, is the highest of several mountains in its vicinity. The valley of Sharon lies to the south of it, and forms a grand promontory in sailing along the coast. It is 2000 feet high, shaped like a flatted cone, with steep and barren sides. There is a chapel on it, and some monks called Carmelites.

Mount Athos in Macedonia, is above a mile high and inhabited by 5 or 6000 Greek monks who have twenty-four monasteries on it.

There are six hills in Scotland nearly of the same height; Ben-Nevis and Benwyvis, 4380 feet each; Benmacoudie, 4300; Cairngorum, 4060; Benlawers, 3978; and Rona, 3944.

It is thirty miles from the foot of Etna to the crater, and the surface of the entire mountain is 1900 square

miles. The great crater is ten miles round and 400 yards high. Pindar called it the pillar of heaven, and Deucalion and Pyrrha were said to have taken refuge on it to escape the deluge. The perpendicular height is 11000 feet, or rather above two miles.

Snowdon is 3600 feet above the level of the sea, and the promontory of Penmaenmawr, at the edge of which a road passes, is 1550 feet.

Height of the hills and mountains, by Reddel's scale :—

Race-course, Brighton	feet 400
Monmouth hill	450
Arthur's seat	800
Dunsinnan	1030
Edgecombe	1300
Malvern	1350
Wrikin	1450
Penmaenmawr	1460
Gibraltar	1470
Pentland	1600
Three Brethren	2000
Sion	2100
Vaucluse	2150
Inglebrough	2280
Wharnside	2500
Cheviot	2670
Sinai	3000
Saddleback	3080
Schehalhien, Skiddaw, and Ben Lomond	3280
Montserrat, Athos, and Hartfell	3300
Helvellyn	3350
Snowdon, Table, at Cape	3500
Stromboli	3850
Vesuvius	3900
Parnassus	3950
Ben Lawers	4030
Ben-Nevis	4400
Soufriere	4830
Hecla	4900
Puy de Dome	5200
Port des Francois	5760
Col de Tende	6100
Stony Mountains	6450
Olympus	6500
Simplon	6600
Cenis	6800
Rouge	7650
Santa Fe	8700
Pilate	8950
St. Gothard	9080
Carnigou, Pic du Midi	9300
Parmesan	10090
Buet	10120
Pic Blanc	10400
Etna	10950
Perdu	11200
Hochhorn	11300
Egmont	11440
Atlas and New Zealand	12000
Argentiere	12180
Teneriffe	12250
St. Elias	12700
Ophir	13850
Ortel	14400
Dome de Gonte	15500
Southern Thule	15100
Rosa	15550
Pichincha	15600
Blanc	15680
Tartarian	15800
Cotocache	16450
El Altar and Hinica	17500
Cotopaxi	18900
Disis Casada and four others	19500
Chimboraza	21000

There are 120 mountains or ridges above 10000 feet above the level of the sea, and 150 from 5000 to 10000, many of them extensive ridges.

Mont Blanc is 14542 feet above the Lake of Geneva, and this 1233 feet above the sea.

Sukanda, in the Himalayas, is 25500; and Dhawalagiri, in the same chain, is 27000 feet, and visible above 250 miles. Nineteen of these mountains are higher than Chimborazo.

A village in the Himalayas is 14700 feet high. The goats produce the wool for shawls. At 15500 feet beds of fossil shells were found. At 20000 feet there was not perpetual snow. They have been ascended 19-600 feet.

The Alps cover 600 square miles. They are divided into the maritime, the Cottian, the Grecian, the Helvetian, the Pennine, the Rhœtian, Carmi, and Julian. The heights are—

Jung franhorn	13739 feet
Mount Blanc	15680
Rosa	15552
Cervin	14784

Mount Perdu, in the Pyrenees, is 11270 feet high, and the Sierra Nevada is 11660 feet high. Snow is permanent above 8900 feet.

The Allegany Mountains in New Hampshire are 8000 feet, and the range is 900 miles. They consist of granite, slate, and limestone, filled with organick remains.

Mount Ararat is 16200 feet.

On the Brocken, the highest of the Hartz Mountains, a spectre is seen,

of which superstition has made a profitable use, and formerly there was a temple on it; and to this day there is the sorcerer's chain, the magick fountain, and the sorcerer's anemone. The spectre is seen in the afternoon, when the sun, at a certain height, projects the shadow of the spectator on any clouds or mists in the atmosphere. His image is thus seen several hundred feet high; and all his motions are displayed by the non-reflection.

The mountains of Seger, in Arabia, produce frankincense; and those of Safra, the balm of Mecca, from the amyris opobasamum, which in the early ages sold for its weight in gold.

The Steppes, in Asia, consist of extensive tracts nearly level, and without trees; the soil sandy, and serving the Tartars to graze their flocks and horses. Those near the Black Sea afford abundance of salt, a proof that it formerly exceeded its present size.

There are on mountains perpetual snow levels, at the following heights.

On the Andes, lat. 2	14760 feet
Mexico, lat. 19	13800
Teneriffe	no snow at 11454
Etna	9000
Caucasus	9900
Pyrenees	8400
Alps	8220
Iceland	2890
Lapland	3100

On Chimborazo, the upper 5400 feet is perpetual snow.

The Himalayas have perpetual snow.

One of the most remarkable precipices is at Table Mountain, in South Carolina. It is 3000 feet high, and stands on the edge of a valley, which nearly doubles its perpendicular elevation. Near it is a cataract which falls 6 or 700 feet. In the plains around, a strata of shells, beds of oyster shells, and petrified fish, are found in great abundance. There are also found enormous bones of unknown animals, the ribs of which are six feet long, the teeth above eight inches, three and a half wide, and nearly a foot in the root.

Though the Caspian Sea is remote from every other, yet the water is salt, and abounds in fish, and the usual marine productions.

There are, in different parts of the earth's surface, above 200 volcanoes, which have been active in modern times. Their products, in many countries, prove that in certain states of the earth they must have been more numerous. When the fermentation is commencing, smoke appears; noises are heard; earthquakes take place; and explosions of ashes, sand, and stone, precede the flow of melted lava. The smoke consists of steam, and carbonick, sulphurick, or muriatick gas. The ashes appear to be exploded lava, and are often carried by the wind 1 or 200 miles. Thick accumulations of them form a compact stone, called tufa; the scoria is like the slag of iron furnaces. The explosive force is such as sometimes to throw stones of 1 or 200 tons eight or nine miles. Lava is a stony substance like basalt, and may sometimes be seen at the bottom of a crater red hot, like melted metal, bubbling like a fountain. When it overflows the crater it is very fluid. At Vesuvius, a red hot current of it was from eight to ten yards deep, 2 or 300 yards broad, and nearly a mile long. Mount Hecla, in 1783, threw up a current of burning lava, sixty miles long and fifteen broad. In Mexico, a plain was filled up by it into a mountain 1600 feet high, by an eruption in 1759. Its heat is so great that it continues to smoke for above twenty years afterwards; and a piece of wood took fire in lava 3½ years after it had been ejected, at a distance of five miles from the crater. Sometimes they throw up mud, and produce extensive devastations. Black volcanick glass is obsidian.

Isolated mountains are generally volcanoes, as Etna, Teneriffe, &c.

Granitick mountains are rugged and precipitous; gneiss, less so, and slate smooth and round. The European and Asiatick mountains are crowned with granite; but the Andes are crowned with whinstone, or the newest floetz trap: and granite does not rise higher than 10 or 12000 feet. Chimborazo has porphyry at its summit, and Pichinca basalt. Limestone is also found at great elevations.

Most mountains present their precipitous faces to the sea, and their slopes to the land.

GEOLOGY.

The surface of the earth is 196862-256 square miles; and its solidity is 259726936416 cubick miles.

The sea is to the land, in round millions of square miles, as 160 to 40, or as four to one.

The earth is, according to different measurements, 7912, 7916, and 7924 miles in diameter; and about 24860 or 24880 miles round.

Mathematicians have not agreed about the exact proportions of the earth's equatorial and polar diameter. Huygens made it 578 to 577. Newton made it 230 to 220. Bouguer 179 to 178. Others make it 266 to 265; and La Place makes it 334 to 333; Maupertius and Bernouilli 129 to 128.

Bodies are lighter at the equator than towards the poles, owing to the spherical figure, and to the cosines not shortening so much as the sines increase; the former being the centrifugal and the latter the centripetal force directed to the equatorial plane. But Newton ascribed it to bodies being nearer the centre at the pole, than at the equator.

Those of the ancients who did not believe in the sphericity of the earth, thought it a cylinder, or an extended plane. Homer made it circular, and the outside water, and this was the idea of the Jews. The later Greeks from Pythagoras and Thales taught the sphericity. But the popes believed it a plain, giving all to the west to the kings of Spain.

The Regent's park is about one cubick mile. Now, suppose a pillar, the base of which is the same size, and about thirty times higher than St. Paul's dome; this pillar would be about one square mile, and about 250 thousand millions of these pillars would be nearly equal to the whole earth.

The original surface of the earth is supposed, by Werner, to have been granite, with pinnacles or deep cavities and hollows; and that then the gneiss, &c. was generated from it; and the other strata, one above the other, from the remains of each, with frequent intermixtures. Others suppose the gneiss, mica-slate, and clay-late to be as old as the granite, and to be arranged and lapped over each other like the scales of a fish. Processes of waste, decay, separation, and combination, appear to have resulted from the continued action of air, heat, water, and central force. It appears that the older secondary formations consist of the very substances of the primary re-united by cement, while their debris again constitute the newer secondary; and the ruins of quartz rocks form sandstone and loose sand; and the ruins of slate and trap rocks, beds of clay. Such is the general source of the silicious and argillaceous earths which cover the earth; the detailed study of which constitutes the extensive sciences of mineralogy and geology.

Taking the land on the globe at 160 the surface of the sea is forty, and seven twelfths are in the southern hemisphere, the water being to the land as thirteen to two, and in the northern hemisphere as seven to five. The mean depth of the ocean is calculated by La Place and others at two miles, and its cubick contents at 290 millions of miles. The Pacifick ocean covers 88 millions of square miles, the Atlantick 25000000, the Indian ocean 17 millions. The southern ocean to forty or fifty degrees is 30 millions, the Mediterranean one million, the Black Sea 170000, the Baltic 175000, the North Sea 160000, the Persian Gulf is 600 miles long, and the Red Sea is 1500 miles, without a river.

The surface of the sea is estimated at 150 millions of square miles, taking the whole surface of the globe at 197 millions, and its greatest depth is supposed to be equal to that of the highest mountains, or four miles; but La Place thinks that the tides demand an average depth of three miles, therefore, the sea would contain 450 million of cubick miles.

The quantity of water discharged into the sea by all the rivers in the world is about 36 cubick miles in a day, hence it would take above 30000 years to create a circuit of the whole sea through clouds and rivers.

The sea continues to encroach on the Cornish coast. Mount's Bay and St. Ive's are expected to meet, and place Penzance on an island. Scilly anciently joined the Land's End, and St. Michael's Mount has

not been an island for many centuries.

Rivers are a beautiful part of the harmony of Nature. The sea rises in fresh vapours, it falls in rain, fertilizing the ground, and returns by the lowest levels to the sea again, forming a channel in the soil; and when the fall is not sufficient, lakes more or less extensive, and courses more or less devious as the land is hilly or plain, are formed.

Rivers and tides produce silent but great changes in the forms of land, and they flow in the lowest levels, but overflowing and contracting, they soon form decided channels by raising the banks with mud and vegetation. Sometimes their course is interrupted, and they form lakes which enlarge till they overflow, and hence cataracts. The St. Lawrence is an example of these circumstances.

The mud of large rivers extends continents at their debouches; the subsiding mud forms deltas of lowlands which in time unite with the main land and form the plains. The Amazons, the Oronooko, the Mississippi, the Nile, the Danube, the Wolga, and the Ganges all have islands at their mouths, and the sea is muddy for a great distance. The Mississippi adds 300 feet per annum to the main land from this cause; the Nile has advanced the land sixteen feet per annum since the time of Herodotus, and has raised the surface of Egypt four inches in a century. The Po carries out the land 228 feet per annum, and consequently Adrea, which 2500 years ago was upon the sea, is now twenty miles from it The Yellow river in China carries down two millions of cubick feet per hour of alluvium, so as to be likely to fill up the Yellow sea. The Nile begins to rise in June, and attains twenty-four to twenty-eight feet of elevation in the middle of August, and then floods the valley of Egypt twelve miles wide. The Ganges rises from April till August thirty-two feet, and then creates a flood 100 miles wide. The Euphrates rises between March and June twelve feet and covers the Babylonian plains. The Mississippi rises with the melting of the snows from March till June, and forms breadths of rapid water of vast extent. At the distance of 1000 miles from the sea, it rises fifty feet and by spreading over a large tract rises only twenty-five at 300 miles, and twelve feet at 100 miles.

Corals and their operations are the most extraordinary species of existence known to us. Their vast fabricks in the sea are produced by the unity of action, though each animal lives a solitaire in its own solid shell. Yet the chief part of their structure is a common wall, to protect their community from the usual swell of the ocean. They consist chiefly of madrapores, while other shell fish congregate on and near their structures. One reef, on the coast of New Holland, in fathomless seas, extends 1000 miles long and from 40 to 50 broad: one vast mass of limestone, likely ere long to be dry and fertile land. They are supposed not to work above the water, though their rocks are found from 100 to 300 feet above the level of the sea.

The numerous islands on the coast of Norway generate currents, and one of them called Maelstrom, runs between some islands six hours from north to south, and six the contrary. Against the tide and in stormy weather, it is fatal to navigators, and even to whales. At high and low water, and in summer, it may be crossed without danger.

The vast tract of land between the Andes and the Atlantick is so level, that in 300 miles the river Paraguay does not fall above a foot. Three rivers fall into an estuary of fresh water, called the Rio de la Plata; which at is efflux, is 150 miles broad, and 30 miles over, opposite Buenos Ayres. At 200 miles distance, it receives several rivers besides the Paraguay, and this receives the Parana and Aruguay, which run to the Andes.

The country near the Oronooko and its tributary streams, is flooded in the rainy season to a vast extent; and the Oronooko near its mouth, expands over the land in June, July, and August, 5 or 600 miles.

The narrowest part of the Atlantick is more than two miles deep. In other parts it is about one and a half mile.

The remains of animals and vege-

tables in the rocks and earthy strata of the earth, are the true and only means of ascertaining its history and natural changes before the records of man. The discoveries made on this subject within the last half century form an era in science in which the name of Cuvier will always be distinguished. In all countries, on digging to certain depths, and in mining, the remains of fishes, vegetables, quadrupeds, and birds are found in the soil or imbedded in the rocks, except in those of primitive antiquity. The general regularity with which those that are marine are laid at one level, and those which are products of land are laid at another, and the alternations of these marine and land products, lead to the conclusion that the sea has repeatedly covered the land for long periods of time, and that the land has, at intermediate periods, been dry; and what is very remarkable, the remains found consist, and always at certain depths, of species of animals, vegetables, &c. not now in existence, and often of genera not natural to the present climate. Cuvier has enumerated several hundred genera of animals, fishes, and vegetables so found, of which there are none of the living genera or species. The lowest rocks, it is therefore inferred, were at one time the surface of the earth and the seat of organick life. These appear to have been destroyed by some great revolutions which brought new tribes of organized beings, while their kinds prove that the surface was covered with water. The subsequent appearance of amphibia, &c. prove the development of dry land; these appear to have been swept away, and among later solid rocks, the monstrous race of herbiverous quadrupeds and gigantick lacerta came into existence when the earth seems to have acquired herbage for their subsistence. How long this race kept possession cannot be guessed, but their length of life is well known. The gypsum, &c. which now contains their remains is covered with newer deposits, abounding in sea shells, and above the stratum is found a new race of herbiverous animals of the genera of the elephant, rhinoceros, &c. and above them is the first loose soil, intermixed with marine substances, proving second or third immersions of the sea; and above this lies the soil which the present race of animals enjoy. What may follow, and when, and how, is a curious question.

The age of the rocks indicates the age of the remains, but we can measure neither by any comparison with known time.

The older secondary rocks contain peculiar aquatick plants and reeds, then above these madrepores, corals, &c. all fixed where they lived; then shell-fish, very simple, but differing from all now in existence; in strata above these fishes, bamboos and ferns; in a still higher stratum are more complicate shells and oviparous amphibia, as crocodiles, tortoises, and reptiles; these are imbedded in the uppermost solid rocks of the oldest secondary formation.

In the newest solid rock formations, whales, seals, and birds appear; above these land animals of enormous size, birds and fresh water shells, all in concrete rocks.

Above these, in the lowest beds of loose soil and peat bogs, elephants, elks, rhinoceroses, of peculiar species are found. Near the surface is found the remains of the existing races. Human bones have only been found among these.

It has been suggested that all these phenomena of the surface of the earth (for to the depth that man penetrates is to be regarded as surface) are occasioned by the oblique and eccentrick motions of the earth as a planet, and of its varied reactions in connexion with the forces which produce the motions. The different distance in the perihelion and aphelion, which points progress round the ecliptick in every 20900 years, is one of the chief causes; the difference of reaction at the two distances being effected by the mobile waters; and greatest, and therefore most accumulating, being in the hemisphere over which the perihelion is acting. At present, and for 6000 years, the perihelion has been vertical over the southern hemisphere, and to this cause is ascribed the vast preponderance of water in the southern hemisphere and the draining of the

northern hemisphere at and since that epoch. Another general cause is the variable obliquity of the ecliptick, by which the tropicks are at present narrowing at the rate of 52 seconds in a century; a motion which it is supposed may be accelerated at times by the other cause and by the variable disposition of the dry land.

A bat has been found in limestone, opossums in slate, guinea-pigs, rabbits, rats, and beavers in limestone: the sloth, one fourteen feet long, in South America and in limestone caves. Bears, dogs, foxes, and wolves in diluvial soils and caves; hyænas and tigers in limestone caves and marl; the teeth of horses, elephants, rhinoceroses, hyænas, bears, wolves, tigers, &c. are found in masses in diluvial soils; oxen in peat-bogs in several countries; deer and elks in peat-bogs and marl-pits, one six feet high and nine feet long was found in the Isle of Man, in marl, covered with sand, then peat, and then the vegetable soil. Rhinoceroses are found in every part of Europe and in the arctick circle; the hippopotamus is found in Engiand, France, and Germany.

Elephants, and animals much larger than elephants, called mammoths, have been found in Europe, America, and Siberia. One found near Abingdon, now at Oxford, is sixteen feet high, and its bones were mixed with those of other large animals: another was found in Siberia in the ice, quite perfect in its flesh, skin, hair, and eyes, with a long mane and tail of stiff black bristles; others have been found in Hudson's Bay. The gigantick mastadon is found in North America and Siberia. The gigantick tapir, twelve feet high and eighteen feet long, has been found in different parts of Europe. Whales are found in Essex, in London clay, and in Bath limestone.

The fossil or organick remains in strata are always the same kind in similar strata, and generally have characters of simplicity of structure, proportioned to the age or depth of the stratum. According to Kirwan, petrifactions or fossil remains are found in marl, chalk, limestone, or clay; seldom in sandstone, and rarely in gypsum; never in gneiss, granite, basalt, or shorle: but sometimes in pyrites and ores. They are impregnated with the species of earth in which they are formed. Those in slate or clay are compressed and flattened.

In the oldest *limestones* are found worms, tubipores, millepores, belimnites, ammonites, nautilites.

In *argillaceous schists* of primary formation are found the same, and corallites, echinites, fishes, leaves, reeds, palms, &c.

In the *lowest secondary sandstone* are found the preceding with orthoceratites, and pectinites.

In the *secondary limestone* below coal are found the same with griphites, ostracites, buccinites, &c.

The *coal* above the preceding evidently consists of bitumenized timber, with leaves and shell and branches of shrubs lying upon the beds, and shells, &c. in the shale between the beds.

Red marl or sandstone contains all the preceding, together with crabs and amphibia, and fishes.

The strata between the preceding and chalk contain every variety of shells and zoophites.

Chalk abounds in fossil remains like the preceding, with sponges, primites, tortoises, and parts of fishes. Above the chalk the lowest marine limestone, and two other strata above it, contain similar remains, with leaves of fuci; and the sandstone above is similar.

Gypsum, the lowest fresh water formation, contains various large animals of the genus palœothera, canis, anoplothera, saurus, &c. besides birds, fishes and palms.

Above the *gypsum* is a marine formation of gypsum and marl, containing marine shells, crabs, and fishes.

The *upper sandstone* contains various marine shells of a dozen genera.

Above this is another *fresh water formation* containing various animals with silicified wood, and remains of crocodiles, turtles, lobsters, sharks' teeth, and branches of trees with fruit.

Chalk also contains marine substances, from the sponge to the alli-

gator; and *clay* contains crabs and lobsters, shells, fishes, crocodiles, fruit, fossil wood, and seed-vessels of woods in great varieties. Diluvial rocks contain elephants, &c. Below chalk the remains are marine; but chalk and the coal formation and upwards contain marine and land remains. The upper old formations contain the larger animals, and the alluvial and newest strata, subjects with which we are familiar.

One hundred genera of multivalve and vivalve shells have been discovered, and of some of them there are hundreds of species. Eighty genera of bivalves are also enumerated, besides thirteen genera of zoophytes. Most of the shells are of genera no longer in existence, and their forms, often gigantick, create astonishment in the most listless. Ammonites alone form some hundred species from a diameter of four or five feet to aggregated millions of a few pounds.

Cuvier establishes thirty-six new genera of fossil quadrupeds now unknown, besides uncertain ones, and forty-nine species. He thinks the oviparous animals were more ancient than the viviparous, that they might have been contemporaneous with the more ancient fishes, but that quadrupeds and mammiferous animals were far more recent.

Several immense basins of rock have been discovered, which are now filled up and level, as the Paris basin, that of the Isle of Wight, and that from Sheepy to Reading, on which London stands. First, there is a marine stratum in them on chalk, of sand and clay with shells; the next stratum is fresh water deposits; the third marine, the fourth fresh water, and then over this are alluvial deposits. The basins are 500 feet deep, and below them are limestone, marl, sandstone, chert, and shale, all containing marine shells. The lowest of the fresh water contains palm-trees, amphibia, quadrupeds, and birds. The third contains fishes and crabs, and covers the second with marl, sandstone, and quartz, of the kind called millstone. The fourth contains fresh water shells and vegetables. The alluvial contains various strata, and remains of elephants, trees, and many large unknown animals, and on this lies the soil of the surface.

Mount Bolca, near Verona, presents the most numerous specimens in Oryctology which have yet been found in one place. Bones of elephants, stags, bears, and phocæ, 200 genera of unknown testacea—200 species of petrified shells, belonging to different modern seas and climates, with zoophytes of different genera, and remains of birds and insects are found in immense masses, basaltick columns, scoriæ, lava, &c. appear, the whole proving that fire and water have operated in remote ages.

The remains of land animals are not more remarkable at Mount Balca than those of marine productions, for the fishes of all modern seas and rivers are imbedded in the calcareous quarries, a sort of marly schist of a light gray colour, affording a fœtid odour like putrefaction. In general they are perfect, and not mere impressions; there have been ninety-four species found, one three feet in length, and a young shark with its food undigested in the stomach, and another fish has one half swallowed in its throat. Fish of the Japanese seas, others of rivers in India, and some peculiar to fresh water lakes, while many of the specimens belong to genera and species no longer in existence. Marine plants are imprinted on the stones, and among the remains of birds a petrified quill has been found. To account for the varieties, it has been supposed either that a volcano increased the temperature of the surrounding sea, or that the gulf of a volcano may itself communicate with the sea, and the fish be involved, for it appears that fish are frequently thrown in prodigious numbers from craters of burning volcanoes. An apothecary at Verona lately possessed a cabinet containing 600 fishes of different sizes extracted from Bolca, and the Marquis Douisi had 800 specimens, many of extraordinary size. For further details and arguments on this very curious subject, the reader may consult the article Bolca, in Brewster's Cyclopedia.

Brogniart, in his Geological Flora, classes plants into four periods: 1, The transition and coal formations; 2, Variegated sandstone; 3,

The chalk; and 4, Above the chalk. He conceives that the successive creations are distinguished by a sudden change in the essential characteristicks. Those of the fourth period are similar to the present. Below the chalk the most perfect are the *cycadeæ* and *conifera*. A land vegetation marks each period, while one family of one period runs into another. The dicotyledonons begin in the oldest strata of the secondary formations, and increase in the more recent.

Eight species of birds are found in gypsum, near Paris. Crocodiles are found in blue clay in Dorsetshire, and on the opposite French coast.

Lizards, twenty-four feet long, equal to the dragons of antiquity, are found at Maestricht, and in Bavaria.

Lizards found at Stonefield must have been forty feet long and eight feet high. Fossil fishes occur every where, and in all forms. Crabs are numerous, as well as other shell-fish.

Insects are found in slate, and flies and ants in amber; and a perfect scorpion was found in a piece of amber.

70 genera of univalve shells have been discriminated; and other shells are so numerous and novel as to fill large books with their descriptions. Their masses are so great, that many have supposed that the vast mountains of limestone are formed of their remains.

Marbles are composed for the most part of them, and in many kinds the forms are perfect. They are found at every depth which has been penetrated, and under beds of stone a thousand feet thick.

In France, at 100 miles from the sea, a single oyster bed was found, which, in oysters and other marine bodies, is equal to 500 millions of cubick yards.

Sharks' teeth and fishes' teeth abound in Oxfordshire.

Fossil shells are found in mountains every where; and they abound in the stones of which the Egyptian, Grecian, and Roman structures are formed.

Miners are familiar with a prodigious variety of vegetables, none of them like the plants of the present country. Remains of plants and tropical plants are found in England, and all over Europe.

Forests of standing trees have been discovered in Yorkshire and in Ireland, imbedded in stone.

Shells, bones, teeth, and various vegetables, are scarcely altered. In other cases their impressions remain on the stones; but more commonly their substance is penetrated with earthy matter, and they are incorporated with the stone. They first appear in the transition class of rocks, and in them their forms are the most simple. Those in the oldest rocks, as limestone and slate, are chiefly molusca, as corals, ammonites, nautilites, &c. while vegetables seldom occur, except reeds and ferns.

In mountain limestone and red sandstone, the above are found, and more numerous vegetables. The coal formations abound in cacti palms, reeds, and ferns; the magnesian limestone, which rests on coal, contains numerous fish and amphibia.

The second sandstone contains both trees and shells. Lias and volite abound in bivalve-shells, spines of fishes, and bones of turtles, crocodiles, opossums, and fossil woods, besides ferns and reeds.

Fossil bones of the great mastadon, and other animals, have been discovered in the Birman Empire.

Fossil remains on the Ohio prove that it was once covered by the sea.

Caves full of bones of bears, hysænas, &c. have been found in Kent, in France, Yorkshire, Franconia, Italy, Somersetshire, &c.

On the descent of a sandstone rock, near Lochmaben, now hard, but then soft, there have been found, for forty or fifty yards, four tracks of animals, distinctly marked in uninterrupted continuity, with regular alternations of right and left foot and the heel and toes; supposed in one case to be the tortoise or crocodile: and the most distinct were on rocks sixty or seventy feet below the modern surface.

Under the ruins of an ancient town, near Modena, standing trees have been found, beneath these beds of shells, and beneath these vegetable remains. Ancient authors, Greek

and Roman, speak of many such discoveries in their time.

Trees are often found in Lapland and Siberia converted into iron ore and carbonate of copper. Lignites are petrified trees, in a state between peat and coals.

The most acute modern geologists agree in opinion that the vast beds of secondary limestone, and most of the secondary calcareous strata have been the production of shell fish and corals; and are distinct from the granite, gneiss, and their silicious and argillaceous ruins, which compose other strata.

Two caves full of bones have lately been discovered in France, and in one of them remains of rude pottery.

Insects are found perfect in amber and copal, which must have been of great antiquity. They afford new genera and species.

In the 13th and 14th century the face of Scotland, according to Tytler, was covered with immense forests of oak filled with deer. Inverness, Elgin, Aberdeen, &c. &c. were covered with wood; and Stirling and Perth had extensive royal forests. The remains of large trees, of oaks, ash, beech, &c. are constantly found deep under the surface. Bears, wolves, wild boars, and bisons also abounded in them. Bears were extirpated in the 13th, and wolves in the 17th century. Beavers also abounded in the lochs.

In St. Andrew's Cathedral, used to be shown the remains of a wild boar, with tusks sixteen inches long and four thick.

Wood is found in Languedoc, part jet, part wood; and trees have been found converted into jet, but so entire as to distinguish their species, as walnut and beach.

In Zetland, twenty-four feet below the level of the sea dyke, there have been found turf, old alder, and other trees.

It is supposed that the bones of apparent birds, found at Stonesfield, &c. are pterodactyles, or extinct species of flying reptiles.

Ink bags, like those in the cuttle fish, are found in the lias at Lyme.

The bezoar stones found at Lyme, in lias, are the fæces of the ichthyosaurus. They resemble pebbles or long potatoes.

The dung of the sea-bird, the guana, on the coast of Peru, is a stratum fifty or sixty feet in thickness, somewhat similar to fossil coprolites.

The strata, near Reading, consists of a deep bed of clay, three feet of coarse fuller's earth, four feet of green sand, one and a half foot of sandy clay, two feet of oyster shells, one foot of sandy clay, thirty feet of chalk, and a bed of flint. In other places, fossil, shells, sharks' teeth, remains of fish, are found; and in others, bones of animals, and remains of birch trees.

On the shores of the Mersey, at Liverpool, at nineteen feet, was found fine sea sand; then a firm bluish marl intermixed with lichen, fibres, and leaves; then branches of trees; then trunks and roots of oaks, firs, &c., then marl, and at thirty feet a pair of stag's horns; then black peat, with nut-shells, fibres of timber, &c. a foot thick, resting on the rock forty feet below the quay, and twenty below the level of the pool.

Bullock describes a fossil lizard 150 feet long.

Ammonites, a univalve shell, is a very common organick remain, but not in existence as a living genus.

The molar tooth of a mammoth weighs 8 lb.; and the knob of the bone of the leg is a foot in diameter. It was a carnivorous animal, and the Indians have traditions of their terrible devastations.

A whole mammoth was found in 1806 *imbedded* within ice near the mouth of the Lena. It was nine feet high, and its horns weighed 400 lbs. The skeleton is now at Petersburgh.

Giant's bones 17, 18, 20, and 30 feet high are credibly reported to have been found; but there is now no doubt but they were organick remains of colossal quadrupeds.

In 1821 the bones of an enormous mammoth were found near Rochester.

Madrepore rocks are found in the

West India Islands on the highest primitive mountains.

There are beds of sea shells 2000 feet high, on Etna, and strata of gray clay, filled with shells much higher. The base is lava and marine substances in alternate layers; and beneath a stratum of lava is a stratum of rounded pebbles, while above it are calcareous eminences formed by the sea. A Sicilian canon who examined some of the beds of lava, separated by rich soils, has calculated that at least 14000 years have passed during their formation.

Thirty one great eruptions have occurred within the records of ancient history. Stones of immense size rise to the height of 7000 feet, and others fall 100 miles distant.

Volcanick action does not consist in the combustion of beds of coal, but in terrestrial operations seated deep under the oldest formations; and hot springs in Germany issue from gneiss, granite, and clay slate.

The Giant's Causeway is an assemblage of basaltick or volcanick columns a mile in extent.

The site of ancient Rome is on volcanick products, covering a marine formation.

At the Lisbon earthquake, Bristol Hot Wells became red. A well in King's Wood became black, and the Avon flowed back while rising.

Rounded pebbles are broken fragments of rocks, rendered smooth by mutual attritions, in long time, by water and tides.

The land in the northern is to that in the southern hemisphere as 16 to 5. The length of the old continent, taken from Behring's Straits to Cape Verd is 11000 miles, and from Cape Horn to Melville's Island is 9000.

The Amazons fall but a foot in 50 miles, or the Rhine one foot in a quarter of a mile, the Loire a foot in 1½ mile.

Fossil shells have been found on the top of the Pyrenees, and from 10 to 12000 on the Andes.

Ninety species of bones of quadrupeds have been found, which are now unknown.

About 200 active volcanoes are recorded, of which 89 are in islands. Submarine volcanoes often throw up islands. The Azores, the Lipari, the Canary Islands, &c. are examples. There seems no doubt but the same species of gaseous explosions, which cause volcanick eruptions, cause earthquakes, and these always accompany the activity of volcanoes.

All volcanoes appear to exist near a sea, and, by the matter they eject, to have some communication with it.

Volcanoes and tracts of land are often absorbed by the earth, and leave lakes in their places.

Professor Daubeny ascribes earthquakes and volcanoes to the access of water to the inflammable bases of the earths and alkalies, and this seems highly probable. When the explosion is single or double, and confined in a cavernous space, it is an earthquake; and when fed and supported by water, as in an elevation, it becomes a volcano.

A volcano, in 1815, in Sambawa, in the Indian Seas, shook the earth 1000 miles round. It filled the air with ashes 300 miles, and roared at that distance like thunder. Others, as Etna, &c. have been equally terrifick.

There is a regular current from the pole towards the equator, and in low latitudes from east to west. This general current being embayed in the West Indies, begets a returning stream called the gulf stream, which proceeds between the Bahamas and Florida, northward, at the rate of three or four miles an hour; and it thence passes to Newfoundland, and is reflected eastward to the Azores, and crosses the Atlantick to the Canaries; and thence joins the general current from east to west. Humboldt calculates that the same water is nearly three years in making this circuit of 10 or 11000 miles. A branch of it reaches the western coasts of Ireland or Scotland, and often brings West India products, wood, &c. which even reach Greenland, &c.

The gulf stream proceeding from the Tropicks, may be distinguished by its higher temperature. Its breadth increases from sixty miles, at lat. 28 degrees, to 150 at 33 degrees, and at 40 degrees it is 500 miles.

An upper current runs into the Mediterranean, and a south runs into the Baltic, on the Danish side, and a north one out of it on the Swedish side.

The waters of the Red Sea appear to be thirty-two feet higher than the Mediterranean, and the Gulf of Mexico is twenty-two or twenty-three higher than the Pacifick.

Sea-water appears to contain from 3.4 to 4 per cent. of salt. Its specifick gravity is 1.028.

In Icebergs only one-seventh is out of the water, and many are seen 200 feet high.

Lakes vary in size continually from desiccation, and the extinction forms basins of organick remains.

On low coasts, as in the Netherlands, and on the sandy mouths of rivers, the reaction of tides throws up the sand in hills or downs, often very high, and always increasing.

n two attempts to sound the Northern Ocean, with lines 1 mile and 1½ mile long, no bottom could be found.

The sands so much encroach on the western side of the Nile, that it covers once-flourishing villages, whose spires and minarets are visible through its surface. Probably the Oasis of Ammon was once part of fertile Egypt. The deluge of sand from the African deserts seems as fatal to the ancient world, as an irruption of the ocean, or the lava of a volcano, and it spreads with fatal certainty.

In general, the colour of the sea is a bluish green, lighter on the coasts. In the Mediterranean it has a purple tint. In the Gulf of Guinea it is white. Near the Maldives it is black, and in other places has red and yellow tints. Its component parts, with very slight variations, are water, muriatick acid, sulphurick acid, mineral alkali, sulphate of lime, and magnesia. The freezing point is 28½ degrees.

Springs of fresh water arise in most seas, and some on our coasts. Near Cuba there are remarkable ones.

About thirty fresh water springs are discovered under the sea on the south of the Persian Gulf.

The Mediterranean makes a tide of only one or two feet.

That singular natural curiosity, the floating island, has emerged from the bottom of Derwentwater three times in about thirty years. It contains about an acre and is quite stationary, and is entirely unconnected with the bottom and the shore; the soil is three yards thick. This floating island is not a solitary example. There is one at Lake Gerdau, in Prussia, and another at Lake Kolk in Osnabruck.

The Caspian is 306 feet lower than the Baltic, and 345 lower than the Euxine.

The salt lakes Aral, the Caspian and the Baltic were once connected, and perhaps the Caspian with the Persian Gulf, forming Homer's circle of waters, and bounding the then known world. Desiccation seems to be a cause always operating.

There can be no doubt but the Dutch provinces have wholly been formed by the mud of the Rhine, the Meuse, the Scheldt, and the Weser. So the Delta in Egypt, and perhaps all Lower Egypt has been deposited in like manner.

Lake Erie is rapidly filling with deposits. The lake of Geneva is contracting, and the lakes in Lincolnshire and Cambridgeshire have become dry in our days. The marine palace of Canute is now near Ramsey, twenty miles from the sea. Wales was anciently separated by an arm of the sea from the Bristol Channel to the estuary of the Dee and Mersey.

Springs are formed by the intervention of Clay and sand strata, the former holding water and the latter permitting its free passage. So that in well-digging, there is no water till clay is reached, or clay is penetrated quite through.

Berzelius thinks that all hot springs pass near a centre of volcanick action, perhaps long extinguished; he also thinks that the hot springs of Carlsbad are as old as the rocky formations. The river Tepel flows over their lid.

Two pounds of half-melted basalt raises 7 lbs. of water from 11 R. to 59 R., whence it is concluded that

mountains of heated basalt may maintain the heat of hot springs for many centuries.

No certain theory is formed on the cause of earthquakes, but the most general and rational ascribes them to steam and the force of gases formed by water and metallick oxydes.

In an eruption that happened in the year 1693, the city of Catania was overturned in a moment, and 18000 people perished in the ruins.

Fourteen earthquakes in different parts of the globe, were recorded in 1827, and perhaps this is an average number.

In Java, there are apertures in the ground which throw up mud in spherical masses, and have changed the face of their vicinity.

The Sandwich islands are volcanick, and Owyhee itself is the cone of a volcano higher than Mont Blanc.

There have been twenty-nine destructive earthquakes in Calabria since 1602, occasioned, as is believed, by the materials of a pent-up volcano, the vapours of which pass through the soil in fissures, cracks, and chasms. Animals buried under the ruins in the earthquake of 1793, were taken out alive in thirty or forty days and human beings survived after being buried twelve or sixteen.

In 1687, the sea retired from the shores of Peru, and returned in mountainous waves which destroyed every thing on the coast; among other places Callao. In 1746, the same phenomenon again took place, and only 200 out of 4000 inhabitants of Callao saved themselves,—nineteen vessels were sunk, and four, including a frigate, were carried over Callao into the country.

The Dead Sea or lake of Asphaltites, stands on the ruins of Sodom and Gomorrah, which were swallowed by one of those natural convulsions which have often visited these countries. It is sixty-five miles long and fifteen broad, strongly impregnated with minerals, though fish live in it. The specifick gravity is 1.24, and it contains 57.4 water, 24.2 muriate of magnesia, 10.6 of lime, and 7.8 of soda.

Near Linken, in a cave, rock crystals were found which weighed 4, 5 and 800 cwt. The exudation which forms crystals is a very extensive mode of rock formation in all varieties.

The Hindoos have a record translated by Wilford, describing a great churning, as they call it, of the sea, near the Hebrides, which lasted for months, and produced great changes. Perhaps it was a sub-marine volcano. The Irish chronicles record the separation of the Scilly islands, and there can be no doubt but the English channel was formed, and is still widening by the tides and floods which first opened it.

The cave of Staffa is made by the destruction of basaltick pillars by the sea. It is nearly 400 feet long, and 30 or 40 broad.

Bogs in Ireland are remains of fallen forests, covered with peat and loose soil, often forming hills. The quantity of rain in Ireland has added to this feature of all countries. Moving bogs are slips of these hills carried to lower levels by accumulating water.

It seems, on the evidence of Seitzen, Gray, and Ehrenberg, that a sand hill on mount Sinai, called Nakato, by continual falling produces remarkable tones, like an Æolian harp, a murmuring noise like a distant cannonade, and greater at certain times.

Sand floods are frequent near sea shores where the wind carries the sand on the beach, and thence over the land. In Africa, vast tracts of native sand are thus carried over adjoining districts and have gradually encroached so as to threaten all Egypt with their sterility, having, since the Christian era narrowed the valley of the Nile as well as the northern states of Lybia, Cyrene, &c. while the sands of Arabia have encroached in central Asia. These sands float like waves before the wind, and at a distance resemble the surface of the sea, while tornadoes in them are fatal to travellers.

The general changes on the earth appear to arise from astronomical causes, the progression of the line of Apsides and the diminution of the obliquity; and local changes arise

from water in rivers, rain, and tides; from accumulated vegetation, from decompositions, earthquakes, and volcanoes.

HEAT.

Heat or varied temperature, and its different effects on different substances, with their varied powers of receiving and transmitting it, afford not only of themselves prodigious number of curious phenomena, but are the immediate causes of nearly all those phenomena of nature which are connected with the expansions, condensations, changes, and conversions of bodies. There can be little doubt that heat is itself a mere effect of motion, and that various intensities by percussion or motion applied, transferred to various atoms and to various combinations, is the cause of all the phenomena of heat. Varied exhibitions of heat in different bodies, seem to arise entirely from that greater or less susceptibility to motion of the atoms which compose them. If a body displays great heat with less excitement, it seems to be solely, because the atoms are so combined as to be more or less susceptible of excitement; and if the term *Calorick* is used for heat, it can properly be used only in that sense.

Count Romford, by boring a cannon within water, so heated it by the friction, that he made it boil, and actually boiled a piece of beef in it.

Blacksmiths commonly light their matches by giving a nail five or six strokes with a hammer. Most savage nations produce fire by rubbing two dry sticks together.

In boring cannon within water, the temperature of nine quarts, was raised from 60 to 170 deg. in an hour, and in two hours and a half the water boiled, the whole heat being equal to what would have been produced by nine wax candles burning the same time.

In strong percussions, the first blow produces the greatest heat and the greatest change in density; thus, in coining copper at 8.85, the first stroke renders it 8.89, with an increase of heat of 10 deg., but the second stroke makes it only 8.91, with 4 deg. of heat.

Different degrees of excitement of their atoms leave their bodies in a state of solidity; other proportions break up their solid structure and convert or melt them into fluids; and higher proportions expand them into vapours and gases. On the contrary, diminished excitements reduce the gases and vapours to fluids, and the fluids again into solids. In this way Mr. Farraday has condensed even the permanent gases into liquids.

Cold is the mere absence of the motion of the atoms of the substance called heat, or the abstraction of it by the evaporation of atoms conveying away the motion, or by the juxtaposition of bodies susceptible of motion, but not previously moved. Cold and heat are mere relations of fixity and motion in the atoms of bodies.

Dr. Black advanced a hypothesis that imagined that heat was a property of certain atoms, which moved from one body to another, and when not in motion, were *latent* in the bodies. This idea has prevailed for half a century, and the name of these atoms is called CALORIFICK.

It appears that the susceptibility, or inherent latent heat, is in certain various proportions, whether considered as a susceptibility of excitement in the atoms of the body, or as heat itself in a latent state: but as this last is a gratuitous property, it has, in general, ceased to be insisted on, as leading to many mistakes in reasoning and practice. The susceptibility, or specifick heat, has been determined for every kind of body by the labours of chymists during the last fifty years. Water is taken as 1; then hydrogen gas is 21 by Crawford and 9.4 by Dalton. Oxygen at 4.7 by Crawford and 1.3 by Dalton. Air 1.8 by both. Azote 0.8 by Crawford and 1.8 by Dalton. Aqueous steam 1.55 by Crawford and 1.-17 by Dalton. Alcohol, by several averages, 0.8. Linseed and whale oil 0.5. Arterial blood 1.03, and venous blood 0.89. Farinaceous substances 0.5 and 0.4. Pit coal 0.28. Cinders 0.19. Glass 1.9. Iron 0.12 Silver 0.08. Gold and lead 0.05. The varied susceptibility is proved by mixing the same quantity of fluids at

the same temperature; thus, if oil at 50 be mixed with water at 100, the result in heat is 83½, and not 75 deg.

Whenever liquid is converted into gas or steam the gas or steam carries off the motion and therefore produces coldness. Hence damp bodies are cooled under an air pump, as is well known.

In proportion as any thing expands, as the expansion is the effect of motion, so the expansion demands motion and occasions evaporation, which occasions more cold. Hence the rarefaction of air occasions cold, because the same atoms by mere motion fill a larger space. Hence, when air is halved in an exhausted receiver, the hydrometer sinks fifty degrees, and if suddenly reduced to a sixty-fourth, it sinks 300 degrees before moisture expands to fill up the vacuum. Leslie's very ingenious discovery consists in absorbing the moisture by a saucer full of oil of vitriol, and thereby have the expansion without the moisture. When the air is rarified 250 times, water under the receiver is cooled down 120°; and at the usual proportion of fifty times to eighty or 100°. In this experiment, the motion which kept the water liquid is transferred to the heated sulphurick acid. The water then fixes or crystallizes, but if left in the rarified air it entirely evaporates after it has become ice.

Water freed from air or its more mobile atoms by boiling, should be close stopped in a bottle if proposed for experiment. Sulphurick acid or parched oatmeal is capable of congealing forty times its weight of water, with rarefaction from twenty to forty. Mercury is solidified in the same manner so as to bear the stroke of a hammer.

In Bengal, the Hindoos make ice by evaporation, and ice-pits for use in hot weather. The Hindoos also cool water by mixing one part of nitre with two of water. Chymists have ascertained that nitre and sal ammoniack, or nitrate of potash and common salt, in equal parts, added to three parts of water, sink the thermometer 40 degrees; and also, that three parts of the phosphate of soda and two parts of nitrate of ammonia, combined with one part of weak nitrick acid, will sink the thermometer 71 degrees.

Leslie, to increase the dryness of air, employed flannel, powdered trap, dried oatmeal, also oil of vitriol; then, by suspending water in a porous vessel over these substances, they kept the surface dry, and increased the evaporation and coldness to 60 degrees. He also froze water under the receiver of an air-pump, by placing under it a vessel full of oil of vitriol, and the acid will absorb half its weight of water. It appeared that when the air was withdrawn from the receiver, water under it parted with its air, and this being absorbed by oil of vitriol, or parched oatmeal, the water freezes. The degree of cold which is thus produced sinks the thermometer 180 degrees.

Combustion arises from the motion created by oxygen gas, being imparted by the combination of the oxygen with the burning body, which usually consists of excited hydrogen in connexion with some substance, usually carbon. A preliminary excitement generates the hydrogen, with which the oxygen in the air immediately combines, parting with its motion, which motion heats the carbon. The flame and light is an intense excitement, which necessarily radiates from the place of flame, and depends, in colour, on the third substance with which the hydrogen was previously combined. These appear to be the instruments of fire, flame, and light. Oxygen is, therefore, called the supporter of combustion; and other bodies are so called, owing, probably, to the oxygen which they contain, or which, being fixed in like manner by excited hydrogen, part with the previous motion. The products of this union or combustion are water, carbonick acid gas, and, when metals are consumed, a calx or oxyde, which is heavier than the metal by the quantity of oxygen which has been combined. The hydrogen evolved by the first and continued excitement is called the *inflammable gas;* and, perhaps, no combustion takes place without it in greater or less proportion. Bodies which do not contain it, as stones, bricks, &c., are incombusti-

ble. Flame, fire, &c., are, therefore, mere effects of the union of two gases, or the same when other bodies are used.

If heat is atoms in motion, then gas is atoms in motion; and the formation of gas absorbs motion or heat, while the condensation distributes it. This theory accords with all phenomena, on nearly the same reasoning as the assumption that heat is a peculiar matter called calorick.

The coarse mechanical methods of exciting heat are called percussion and friction; thus, a hammer struck on metal, or any hard body, makes it hot, but if struck on a friable noncohering body, which yields to the velocity and disperses by the blow, no heat is produced. The heat produced by friction is well known to all mechanicks, and is diminished either by making the surfaces smooth with unctuous substances or by water, which evaporates, and carries off the excitement.

The cause of all inflammability is hydrogen; and in other words, inflammability means nothing more than the fixation of oxygen gas (the atoms of which were previously in intense motion) by hydrogen gas, whenever hydrogen gas is evolved and also excited. Tallow, wax, oil, and alcohol, contain hydrogen; and to light them we apply a burning body, by which means the hydrogen is evolved, and excited to 800 degrees and upwards; so that the oxygen of the air unites, and parts with its previous motions, by which motions the excitement of the hydrogen is continued at 800 degrees and more.

The burning, or decomposition and composition, continues as long as the substance affords hydrogen, and the supply of oxygen is of course indefinite. The products are soot and carbonick acid from the carbon and oxygen; water from the hydrogen and oxygen: and the excitement around, called light, is the result of the whole.

Gas, or aqueous vapour, is formed in the simplest manner, by striking a piece of iron some quick blows with a hammer. The momentum of the hammer is thus transferred to the atoms of iron, which, by reaction from their sub-parts, radiate invisibly, and the iron affords, as a result, the sensation of heat, which continues till the momentum imparted has been radiated. If then some water, which radiates better than iron, is put on the iron, the water is dispersed in steam or separated atoms. These emerge into a space filled with aerial atoms, and suffer constant deflections in every direction, which ultimately produce small circular orbits in each atom, while the aggregate produces a cloud of steam, which continues till the motions have been parted with, when it is precipitated as water. The motions of the hammer are thus in the steam. All other gas is virtually or actually made in the same way, and the volumes depend on the excitement, and on the bulk and form of the atoms affected.

As heat is the motion of atoms, so its communication enlarges bulks; 180 degrees of heat expands 100 cubick inches of air to 137 inches, and other gases in nearly the same proportion.

This effect of expansion is the foundation of the thermometer; different degrees of excitement swell it and contract it; different makers mark their scale differently. The freezing point of Fahrenheit, the most common, is at 32 degrees, and boiling water at 212 degrees. Mercury, however, expands more at high degrees than low ones; and, therefore, the midway between freezing and boiling is at 110 degrees instead of 122 degrees. Mercury is preferred because it does not freeze till 40 degrees below zero.

Mercury expands between 32° and 212°, 0.02 to 0.018; water 0.0433; fixed oils 0.08; alcohol 0.11.

100 parts of air at 32° expand at 40° to 101¾; at 50°, to 103¾; at 60°, to 105.8; at 70°, to 108; at 80°, to 110; at 100°, to 114; at 120°, to 118; at 150°, to 124¾; at 200°, to 135; and at 212°, to 137.4.

The second's pendulum, of 39.139 inches, is lengthened by 30° of temperature the 128th of an inch, or eight vibrations in twenty-four hours.

As much heat, or atomick motion, is imbibed by a pound of ice in melt-

ing, as would raise a pound of water to 135 degrees. Black made it 140 degrees, which, multiplied by ten, as the whole quantity of heat in water, at 32°, gives 1400° as positive zero, when no heat would remain. Crawford made the absolute zero 1532°; Gadolin made it 1432°; and La Place 3460°; while Desormes makes it only 448°.

Pieces of ice rubbed together melt. Pieces of brass rubbed together in an air-pump, become hot; and a vacuum transmits heat, owing to the radiation of the atoms of the substance which encloses it.

The metals which retain heat the longest are brass and copper, then iron and tin, and lastly, lead.

Taking the heat-conducting power of water at 10, ash is 81, elm 32, oak 33, and fir 39.

The densest woods are the best conductors of heat. Hornbeam (4 inches 10 lines long and 1 inch thick) conducts 54 deg.; oak 50.5, Chestnut 53.7, Fir 47.91, Poplar 37.59, and Cork 17.5.

The best conductor of heat, or most excitable of the metals is silver; then gold, tin, copper, platinum, steel, iron, and lead. Hare's fur, eider down, wool, and silk are the worst conductors.

The safety lamp is founded on the principle, that flame in passing through iron-wire messes, loses so much of its heat as not to be capable of igniting inflammable substances around, while flame only ignites gas. There ought to be above 625 apertures to the square inch. A pin stuck in a rushlight extinguishes it on the same principle of conveying heat from the wick.

The absolute quantity of atomick motion, or calorick, as it is called, in water, at the freezing point, is taken by Black at 1400 degrees, below which no heat would remain. Crawford made this zero of water 1532 deg.; Gadolin 1432; Lavoisier 3460; and Dalton 4, 5, and 6000.

The intense motion which exists in atoms when gaseous, is proved by the recondensation and in this way the condensation of muriatick acid gas has transferred its own intense motion so as to make mercury boil at 656 deg.

Ether boils at	104 deg.
Alcohol	173.5
Nitrick acid	210
Water	212
Oil of turpentine	304
Sulphurick acid 1.8	472
Phosphorus	554
Sulphur	570
Linseed Oil	640
Mercury	656

That is, they cannot be made hotter, and their steam, which equalizes their heat, then balances the atmospherick pressure at 30 inches. Taken then as to the force, the steam at lower temperature has less elastick power. Vapour of ether at 64 deg. has a force only of 13 inches of mercury, but at 210 it is 166. So alcohol at 55 deg. has a force of only 1, but at 200 deg. it is 53; and at 264 deg. it is 166. Turpentine at 350 deg. is 53.8; and at 362 deg. is 62.4.

Quicksilver melts 39 below zero.

Ether freezes 47 below zero.

Cold from sulphurick acid and snow 78.5 below zero.

The greatest artificial cold ever produced was 91.

Equal parts of alcohol and water freeze at 7 deg. and two of alcohol and one of water at 11 below zero.

Wine freezes at 20 deg.

Iron is a bright red at 752 deg.

Lead melts, 594 deg.

Bars which are 1 at 32 deg. expand at 212 deg. as under:—

Glass becomes	1.0008½
Platina	1.0009
Cast iron	1.0011
Steel	1.0018
Iron wire	1.0014
Gold	1.0015
Copper	1.0017
Brass	1.0018
Silver	1.0020
Tin	1.0028
Zinc	1.0029

The following table exhibits the exact expansion of various substances between 32 and 212 deg. of Fahrenheit in parts of an inch:

Glass	.0097
Steel	.0137
Iron	.0151
Copper	.0204
Brass	.0225
Pewter	.0274

Tin	.0298
Lead	.0344
Zinc	.0353

Wedgwood's Pyrometers consist of small cylinders of porcelain clay which permanently contract at great heats, but uncertainly. His scale commences at 1077 deg. of Fahrenheit, and the following table expresses some of his results:

	Wedg.	Fah.
Brass melts	21	3807
Silver melts	28	4717
Gold	32	5237
Flint Glass	114	15897
Plate Glass	124	17197
Cast Iron	150	20577
Nankin Porcelain softens	160	21877

A platina pyrometer gives different results; by it the degrees are as under:

Silver melts	1823 Fah.
Gold	2518
Cast iron	8696

By this platina scale it appears that mercury boils at 643; zinc melts 705; Copper 2205; platina 11454.

By other experiments of Mr. Daniell, he makes brass melt at 1869; silver 2233; copper 2548; gold 2590; and cast iron 3479, which last, Wedgwood made 20577. Mr. Daniell also makes the heat in a parlour fire 1141.

Roy, with Ramsden's microscopick pyrometer, determined the expansion of brass from 32 to 212 on a foot, to be .0227 of an inch; on steel to be .0137; on cast iron .0133; and on a glass rod .0097.

The absolute heat, motion, or calorick, in equal bulks of water and mercury, is as 28 to 1.

Equal weights of water at 32 and 212 deg. give 119 deg.

Thermometers vary from true heat. 51.26 deg. of true heat gives 50 of Reamur, and 47.3 by alcohol; and 21.12 gives 20 by Reamur, and 16.5 by alcohol.

Light matches are made of three parts of chlorate of potash and one of sulphur or sugar, made into paste with gum water. The matches are dipped in this paste, and when touched with sulphurick acid in a bottle, they flame.

The human body, in a healthy state, is generally at 98° of Fahrenheit. Artificial hot baths are generally 6 or 7° higher. The king's bath, at Bath, is 116°; the hot bath 117°; at Vichy 120°; at Barege 122°; Borset 132°; Aix-la-Chapelle 140°; Carlsbad 165°; Baden and Pisey 104°; Buxton 82°; Bristol 74°; Matlock 66°. Sea water is seldom below 40°; springs about 45°; and pools and small rivers are at the temperature of the atmosphere.

The heat of an oven applied to a dead human body for twelve days, reduced it from 120 to 12 lbs. The fluids are to the solids as eight or ten to one.

Blagden and others in heated rooms at 280° experienced no inconvenience in respiration, and the heat of their bodies did not rise above 99½°. Chabert entered an oven at 500°. But all metal acquired the full heat; water boiled, &c. Fish too actually live in hot baths up to 158°. Trees also grew in a bath at 174°; flowers, near a volcano at 210°; water plants are found in boiling springs.

By atmospherick and solar heat a sun-flower weighing 3 lbs., loses or changes 22 ounces in 24 hours, and a man 2 lbs. by animal heat.

Newton considered flame as red-hot smoke; but modern science regards it as the place where oxygen unites with hydrogen and carbon, and the diminution of volumes transfers an atomick excitement to the carbon, which radiates or protrudes light; the fixation of the gases causing the heat as long as hydrogen is evolved. All flame, in fact, is produced by the union of the hydrogen of the combustible and the oxygen of the air acting on carbon.

Brown's gas-steam-engine, worked by consuming carbonick oxyde, produces a pressure of 22 inches of mercury, or 11 lbs. to the square inch, or a working pressure of 10 lbs.

When steam is first generated, by water at 212 deg., its force is that of one atmosphere, its density 1, and its specifick gravity 1.26; but at 320 deg. its force is equal to six atmospheres; at 358 deg. to ten; at 416 deg. to twenty; and 590 deg. to one hundred atmospheres. The different force is created by the principle of heat, which is so much atomick mo-

tion transferred to the atoms of water, by which their orbits are enlarged at every increase, and the expansive power increased, as the orbits of the atoms enlarge.

Separation of fluids by distillation and by cold illustrates the principle; and the demands of motion or heat from surrounding bodies during all expansions, and its radiations during condensations, are other illustrations which run through all chymistry.

Steam at 212 deg. has the force of the atmosphere, and is 3000 times rarer than water, or 3⅓ times rarer than air; and great heat will raise it to 14000 times the bulk of water, equal to five atmospheres. Taking 212 as 1, its force at 100 is .062; at 260 is 2; at 290, 3; at 300, 3.337; and at 330, 4.6.

Elastick fluids expand equally with equal increase of temperature.

A cubick inch of water, ther. 40 deg. may be expanded at 212 deg. to 1694 inches, when its elastick force is equal to that of the atmosphere.

The force of steam is in geometrical progression of the temperature.

A bushel of coals will convert into steam fourteen cubick feet of water, occupying 1330 times that space as steam, and lifting the atmosphere above the water 1330 times its depth, or 39 millions of pounds one foot high, or with deductions 30 millions; susceptible of further increase by more fuel, carrying it above 212 deg.

In a steam-engine every nineteen cubick inches of water produces twenty feet of steam, or 1 to 1800 nearly; and this is equal to one horse, and produced by a quarter of a pound of coals. In general, a chaldron of coals works a hundred horse power for four hours.

One cubick foot of boiler in steam pipes heats 2000 feet of air 70 deg.; and one square foot of pipe will warm 200 feet of air.

Watt's improvement of the steam engine consisted in his discovery of the power of cold water to condense steam; and he, therefore, applied this neat means instead of allowing the steam to escape, as in the old engines.

Four ounces of water will, m a sec cond, condense 200 feet of steam, and reduce its expansive force to $\frac{1}{3}$.

If heat is the motion of atoms, then, as all gas is formed by abstracting or absorbing heat, while atoms are dispersed, so *animal heat* is an immediate sequence of the respiration of aerial gas, and animal energy also. Thus a man consumes 330 cubick inches of air in his twenty ordinary respirations per minute; and the 28 cubick inches of its oxygen becomes carbonick acid gas, whose specifick heat is reduced $\frac{1}{3.3}$. This is 1728 inches in 61 minutes, containing 876 deg. of absolute heat; and an absorption of 876—195=681 deg. of absolute heat or motion is therefore fixed in the system. In exertions, it is doubled or trebled in quantity.

One gallon of water in steam will raise six gallons from 50 to 212.

4 lbs. of beef loses 1 lb. by boiling, 1 lb. 5 oz. by roasting, and 1 lb. 3 oz. by baking; 4 lbs. of mutton loses 14 oz. by boiling, 1 lb. 6 oz. by roasting, and 1 lb. 4 oz. by baking.

Lamps were used by the ancients, and candles were an invention of the middle ages. At first, wicks were made of hemp, papyrus, and the pith of rushes. Ox and sheep tallow is now preferred. Tallow melts at 92 deg., spermaceti at 133 deg., and bleached wax at 155 deg. Wax candles are made very cheap in America, from the berry of a particular species of myrtle, which yields excellent wax, of a green colour. They may also be made by mixing wax with the pulp of potatoes, and also of the butter of the cocoa-nut, and these are excellent.

A gas-light equal to one good candle consumes 1.43 of cubick gass per hour; four candles 1.96 per hour; six candles $2\frac{4}{10}$; eight candles 2.95; and ten candles 3 feet.

One lb. of hydrogen consumes or fixes 7⅛ lbs. of oxygen, which melts 320 lbs. of ice. A lb. of wax, oil, or tallow consumes or fixes 3 lbs. of oxygen, which melts 104 lbs. of ice.

Scotch canal coal produces the greatest proportion of illuminating gas; then Wigan, Wakefield, Staffordshire, Dean Forest, and Newcastle.

A chaldron of coals yields 10000 cubick feet of gas. Street lamps consume 5 feet per hour, and Argand lamps 4 feet.

16000 cubick feet of gas are obtained from a chaldron of Newcastle coals, or 590 per cwt. 11000 cubick feet are produced by a chaldron of Staffordshire coal, or 400 per cwt.

Gas-pipes of half an inch in diameter supply a light equal to 20 candles, one inch 100, two inches 450, three inches 1000.

The gas which lights London is made by four companies, who consume 34000 chaldrons of coals per annum, which make 400 millions of cubick feet of gas, lighting 62000 indoor and 7500 street lamps. Various establishments make one-eighth more.

The gasometers of the London gas companies contain each nearly 20-900 cubick feet of gas, and some have 47 of them; and altogether 1315 retorts. The coals make one-fourth more in bulk of coke, which sells at about 20s. the chaldron.

Sixteen retorts will produce daily 50000 cubick feet of gas, consuming five tons of coals in the retorts, and costing above five farthings for every ten cubick feet of gas; while it is computed that this will give as much light as half a pound of candles. The same quantity of oil gas would cost 2¼*d.*; while the refuse in making the coal gas is worth a fifth.

In 1830, the gas-pipes in and round London were above 1000 miles.

Water in freezing evaporates as much as by direct heat, and ice evaporates largely. As evaporation carries off the most mobile atoms, or calorick, it produces coldness in the body.

Fordyce, Morveau, and Romford, proved that when the atoms of fluids become fixed by freezing, they increase in weight; lateral motions of fluidity, diminish weight. Davy and Berzelius state that the weight of an atom of azote is twice its specifick gravity.

The bulb of a thermometer, covered with cotton, and moistened with ether, may by the evaporation be reduced far below zero.

Three parts of snow and four of potass, or two parts of snow and three of crystallized muriate of lime, produce 83 deg. of cold.

Two parts of common salt mixed with two of ice or snow produce a degree of cold five degrees below the zero of Fahrenheit. One of sal ammoniack and two of common salt with five of snow, make it seven degrees colder. And equal parts of nitrate of ammonia and common salt with two and a half of snow, reduced it 25 degrees below zero. Five parts of muriate of lime and four parts of snow freeze mercury. If the muriate of lime be crystallized, or four parts of dry caustick potash be added to three of snow, fifty degrees below zero may be acquired. Mr. Walker of Oxford produced ninety-one degrees, by applying two parts of sulphurick acid to snow. The whole arises from the transfer of the atomick motions of the adjacent bodies to effect the melting of the snow, and the cold is inversely as the time in which the melting is effected. It is a case of the transfer of motion.

Salts in water, lower the freezing point. Thus, 25 per cent. of common salt in water lowers its freezing point from 32 degrees to 4 degrees, but other salts less. Hence, water frozen at 32 degrees, is liquefied by 25 per cent. salt, till the thermometer falls to four degrees, and in proportion for other quantities of salt.

Acids and salts absorb moisture, and as they and the water freeze at different degrees, freezing decomposes them, while the temperature in connexion, occasions the water not to freeze at 32 degrees. Sea water, therefore, does not freeze so soon as fresh water, and 25 per cent, of sulphurick and nitrick acid lowers the freezing point of the mixture to 7.5 and 7. When snow or pounded ice are mixed with salt or the acids, these dissolve the solid crystals into fluids, and in converting solidity into fluidity withdraw motion from surrounding bodies, as in them to be capable of producing a cold of 70 degrees below *zero*.

All hot bodies distribute their heat or atomick motion to other atoms around, and this depends on the roughness of the surface, as exposing

the greatest number of points to surrounding atoms. Metal, paper and glass radiate the least; lamp black the most.

A thermometer fell from 190 to 68 degrees in a vacuum in ten minutes, but in air in six minutes. Two tin globes, one painted lamp black and the other bright, the first lost half its heat in 35 minutes, and the other in 44 minutes.

If the surface of the metals is scratched or roughed, the radiation, of course, is increased, because the excited atoms which cause the heat have more points for distribution to the atoms around. Some of the proportions are lamp-black 100, ice 85, polished iron 15, gold, silver and copper 12. Reflection in right lines, has contrary power to distribution or radiation by contact, and in this last case it is of course diminished by rarefying the medium.

Heat does not pass through bodies till it has heated them or put their atoms in uniform motion. Some bodies are more susceptible or contain more susceptible atoms than others. Silver and gold, copper and tin, are among bodies the most susceptible of atomick excitement, and conduct what is called heat the best; other metals have less facility, stones less than metals; brick, glass, dried woods, and charcoal less still; feathers, silk, wool, and hair, least of all bodies. This list proves that the conducting power is an effect of the continuity of the matter, and is less as the interstices between the atoms are greater. Liquids are dispersed by the heat, and therefore bad conductors. Gases are enlarged by it, and therefore it is exhausted in themselves.

Taking the radiating power of lamp black at 100 seconds, ice is 85 seconds, lead 19 seconds, iron 15, and tin, gold, silver, and copper 12.

The invisible radiations from heated bodies may be acted upon by refraction and reflection like light, but they do not pass through transparent bodies.

A poker laid over a fire, concentrates the heat of the passing smoke, and creates a draught through the fire.

Wheels and casks are bound by hoops, swelled by heat, the contraction rendering them more binding.

A thermometer, at a certain elevation, cooled in air, azote and oxygen in 100 seconds, in hydrogen in 40, in coal-gas in 70, and in carbonick acid in 112.

Argand's lamp carries a current of air through the wick, by which more oxygen is fixed.

If oil at 100, is mixed with water at 50, the result is 66⅔. Hence, water is conceived to have double the susceptibility or power of receiving heat that oil has.

When water freezes it forms itself into crystals with interstices, and expands: hence, ice swims, and is eight parts in one hundred lighter than water. Some metals and sulphur also expand when crystallizing, while other bodies contract. Salt water does not freeze till four degrees lower.

A volume of ice is melted by as much heat as will raise an equal bulk of water 140 degrees.

A cubick foot of oxygen imparts 876 degrees of heat.

Though lead melts at 540 by itself, bismuth at 460, and tin at 408 degrees of Fahrenheit, yet if mixed in the proportions of 5, 8, and 3, they melt at 200 degrees.

Phosphorus smokes and becomes luminous at 43 deg.; at 99 it melts, and at 219 evaporates. As friction kindles it, so a match thrust into a box of it, combined with sulphur or lime, takes fire. All luminosity of insects, &c. arises from secretion of phosphorus.

Animals die if their vital temperature is increased one-twelfth.

Hemp, cotton, matting, &c. with oil and lamp-black, generate heat, and finally ignite spontaneously when exposed to air.

In flint and steel, the intense excitement of the steel occasions the particles to take fire, i. e. hydrogen is excited and oxygen combined or fixed, which is the universal characteristick of flame and luminosity.

The compression of water by thirty atmospheres gives out the sixty-sixth of a degree of heat.

Equal volumes of all gases have

the same specifick heat; but each gas has a different conducting power.

Melted snow produces about one-eight of its bulk of water; hence snow, two feet deep, produces three inches of water when thawed.

In Cornwall, certain steam-engines have lifted 40 million pounds one foot, with one bushel of coals; and one at Wheel Towan lifted 62 millions with an 80-inch cylinder.

Frost proceeds downwards, heat upwards.

As heat rises with the rarefied air, Count Rumford taught to place grates low, to make chimneys small, and mantle-pieces low.

The heat making atoms which evolve from an iron-stove at a black heat, are visible in a sun-beam in a dark room.

A naked body in air cools in 576 seconds, in wool in 1118 seconds, in cotton in 1046 seconds, in hare's fur 1315 seconds, in raw silk 1284 seconds, and in eider down 1305 seconds.

Water saturated with nitre loses 17 degs. of heat, and with nitrate of ammonia 45 degs. of heat.

All solid bodies become luminous at 800 degs.

Extreme cold produces the same perception on the skin as great heat. When mercury is frozen at 40 deg. below zero, the sensation is the same as that of touching red hot iron.

Acids combine with water, condense it, and produce heat.

One gallon of water converted into steam will heat six gallons at 50 deg. to the boiling point; and one foot of surface of cast iron steam pipe will heat 200 cubick feet of air 70 degs.

Fourier calculates that the celestial spaces are 58 deg. below zero.

Eggs are hatched at 104 deg. of heat.

Iron is melted by heated air, with three-fourths of the coals.

When a bulk of lime and water are combined, the heat is caused by a condensation equal to the bulk of lime, for the mixture is the same bulk as at first.

Sir Charles Blagden exposed himself in an oven heated to 250 deg. for eight minutes without injury. A vapour bath cannot be endured at 120 deg.

Steam at 32 deg. has a force of 2; at 80 deg. of 1; and 120 deg. of 3.3; at 212 deg. of 30; at 220 deg. of 40; at 300 deg. of 140; and at 312 deg. of 167.

Water boils at 187 deg. at the top of Mont Blanc.

The coldest hour of the twenty-four is five in the morning, and the warmest is from two to three in the afternoon. The mean heat is from half-past eight to half-past nine. The greatest range is in July, the least in December.

At Bear Lake, Captain Franklin, on February 7, found the thermometer at 58 degrees below zero, and for two days it had been 57.5 deg.

A convex lens burns at 25 feet under the surface of the sea in a diving bell.

Count Rumford gave 1000*l.* 3 per cent. annuity, the interest of which is to be disposed of every other year to the person who shall communicate any discovery on heat and light. The preference to be given to such discovery as tends most to promote the good of mankind; and to be determined by the council of the Royal Society.

Combustible bodies will not burn if dipped in a solution of potash, or phosphate of lime, or muriate, sulphate, and phosphate of ammonia, with borax. The alkaline substances arrest the hydrogen, or prevent its combination with oxygen.

In Siberia and Hudson's Bay, mercury sometimes becomes solid, proving the cold to be 39 deg. below zero. Wine and spirits also becomes a spongy mass of ice, and the freezing of the sap in trees and of water in rocks explodes them.

Humboldt, La Place, &c. consider the fact of an internal heat in the earth as fully established, and they ascribe to it the origin and phenomena of volcanoes in connexion with metallick bodies, and the access of water to supply oxygen and hydrogen.

At eight feet deep the annual temperature varies only from five to se-

ven degrees; and at four feet, from ten to twelve degrees; while at one foot, it ranges from nineteen to twenty degrees; and in the open air, from 50° to 65°.

At the depth of forty or fifty feet the temperature of the earth is the same in winter and summer, apparently colder in summer, and warmer in winter. Frost seldom penetrates above a foot into the ground.

The earth is believed to increase in heat, a degree in every fifteen or twenty yards depth. *Cordier.*

In the catacombs at Paris, the thermometer through the year, is from fifty-two to fifty-four degrees, while on the surface it varies from ninety degs. to 0 deg. In Mexican mines it stands at seventy-four degrees.

Depths of undisturbed air are like water. In a silver mine in Norway, 300 feet deep, the bottom is covered with snow, and so in other deep caves, owing, as is believed, to the cold air of winter sinking to the bottom.

While air above snow is seventy degs. below the freezing point, the surface of the ground below the snow is only 32 degs.

At great depths in the sea, as 4000 feet, the difference is from fifteen to twenty-two degrees between the air and the water at that depth; and at 4680 feet the water is twenty-six degrees, while the air is 48½°

Near Jamaica, at the depth of 6-000 feet, the thermometer fell from eighty three in the air to forty-five in the sea.

It has been proved by experiment in lat. 56 deg. 10 min., by keeping thermometers fixed in the ground at various depths, that frost does not penetrate so deep in the earth as a foot; that at the depths of one, two, and three feet, the lowest temperature, during two years, was, at one foot, 33 deg.; at two feet, 36 deg.; and at three feet, 39 deg.; while the highest was at one foot, 35 deg; two, 52.5°; and three, 52 deg.

The lake of Geneva, at the depth of 1000 feet, is always 42 deg. and no variation takes place below 160 feet. In a lake near Rome, at 490 feet, the thermometer was 44½, though at the surface it was 77 deg. Variation does not take place below 120 feet. In Scotland, on the surface of Loch Lomond, the thermometer stood at 59.3, but at 90 feet, it fell to 43.7, and at 240, was 41.3; and at 600 was 41.1.

The deepest coal mine in England is at Killingworth, near Newcastle. The annual temperature at the bottom, 400 yards below the surface, is 77 deg., and at 300 yards, 70 deg.; while at the surface it is but 48 deg., being about 1 deg. for every 15 yards. This may explain the origin of hot springs, for at 3300 yards the heat would be equal to boiling water, taking 20 yards to a degree. The heat of the Bath waters is 116 deg., hence they would appear to arise at 1320 yards below.

The mean annual temperature at the level of the sea, is for different latitudes, as under, and the third column shows the height in feet of constant freezing in those latitudes.

	deg.	feet
Equator	84.2	15000
lat. 10	82.6	14700
20	78.1	13300
30	71.1	11500
40	62.6	9000
50	53.6	6300
60	45	3800
70	38.1	1700
80	33.6	450

The heat may be supposed to arise from the verticity of the sun in the tropicks, and then dispersed through the mass, but finding a limit by dispersion in the annual orbit.

Of 10000 rays falling perpendicularly, 8100 reach the earth; 7000 at 50 deg., 2800 at 7 deg., and 5 at 0 deg.

Water seldom freezes till the meridian altitude of the sun is less than 40 deg.

In the latitude of London, America is 13 deg. colder than Europe, and in 40 lat. is 8.6 deg. colder than Europe.

In China and Africa, the thermometer rises to 110 and 113, and even to 125 deg. in the sandy deserts; and in Hudson's Bay it falls to 50 and 55 deg. below zero.

When the sun is in Aries or Libra, the relative heat of the equator, according to Humboldt, taken at 1000,

at 20 deg. is 940; at 40 deg. 760; and at 60 deg. 500. But when in Cancer, or Capricorn, is for the same hemisphere at 0 deg. 9117; at 20 deg. 1008; at 40 and 50 deg. 1150; at 70 deg. 1175; and at 90 deg. 1250; owing to sunshine for six months.

The temperature in equal latitudes, is from 4 to 8 deg. less in the southern hemisphere, supposed to arise from the extended surfaces of water, and from the sun passing through the southern signs in 7¾ days less than the northern.

A condensed mixture of oxygen and hydrogen, in the proportion of water, passed through a pipe, constitutes the oxy-hydrogen blow-pipe, producing unprecedented degrees of heat; and lime, alumina, and the alkalies are melted, and even volatilized in a few minutes. Rock crystal and quartz are converted into glass. Opal and flint into enamel. Blue sapphire, talc, emerald, lapis lazuli, are converted into glass. Gold and diamond are volatilized. Platina and brass wire burn with a green flame. Copper melts without burning; but iron burns with brilliant light. Iceland spar and strontian and pure lime give out an amethyst-coloured flame.

When oxygen and hydrogen are burned, the heat is 2578 deg.; but the same oxygen and charcoal give 2967 deg.; and with iron, zinc, and tin, 5825 deg. *Despretz.*

Mercury for thermometers is purified by agitation in a bottle with sand, and then by straining it through leather.

There are four thermometrical scales in general use, by which mercury determines heat from its freezing point at 40 deg. below zero, to 600 deg. where it boils.

Fahrenheit begins at 32 deg. below the point of freezing water, for 0 or zero; and setting 32 at the freezing point, he ascends, to 212, the heat of boiling water; taking 98 as blood heat, and 176 as the heat at which alcohol boils; 55 as temperate, and 76 as summer heat.

Fahrenheit supposed, erroneously, that 32 of his divisions below the freezing point of water (0 on his scale) was the *zero*, or greatest degree of cold.

Reaumur's begins 10 degrees of Fahrenheit below Fahrenheit, and divides up to the freezing into 20 deg. Then above begins again; and his 20 corresponds with 77 deg. of Fahrenheit, and his 40 deg. with 122 of Fahrenheit, and his 80 deg. with 212 of Fahrenheit; every 2¼ of Reaumur being 1 of Fahrenheit, taken from the freezing point.

Celsius counts 25 below the freezing point; and above, his 10 corresponds with 50 of Fahrenheit, and his 50 with 122 of Fahrenheit.

De Lisle begins at the boiling point, and reckons downwards from 0 to 150, at the freezing point; his 177 corresponding with 0 in Fahrenheit, and with 17 of Celsius, and his 75 with 40 of Reaumur, 122 of Fahrenheit, and 50 of Celsius.

The Centigrade thermometer divides 32 to 212 of Fahrenheit into 100 deg., i. e. 180 as 100. Then 20 deg. to zero.

Fahrenheit and Reaumur are most frequently quoted. 10 of Reaumur below freezing is 9⅛ of Fahrenheit; 5 of R. above freezing 43¾ of F.; 10 of R. 54⅛ of F.; 15 of R. 66 nearly of F.; 20 of R. is 77 of F.; 25 of R. is 88⅛ of F.; 30 of R. is 99⅛ of F.; and 35 of R. is 110⅞ of F.

In Wedgewood's pyrometer he begins at red heat visible by daylight, or 1077 deg. of Fahrenheit; and every deg. with Wedgewood is 130 deg. of Fahrenheit. In his scale he found that brass melts at 21, silver 28, gold 32, and iron 160, being 21897 of Fahrenheit. It measures up to 32277.

CHYMISTRY.

The science of chymistry assumed its modern character in the hands of Beccher and Stahl, residents of Mentz. They first perceived the connexion of the atmosphere and of gases, with the production of phenomena, and paved the way for the discoveries of Bergman and Scheele, two Swedes, who died in 1784 and 1786, and were contemporary with Priestley in England, and Lavoisier in France; while Berzelius, another Swede, Fourcroy and Berthollet in France, and Thompson and Davy in

England, have conferred arithmetical precision on its pursuits.

One volume of any gas combines with one of another, or with two or three exactly.

The weight of an atom of oxygen is to one of hydrogen as 8 to 1, or 1 to 0.125; and to one of nitrogen or azote as 4 to 7, or 1 to 1.75.

Metallick oxydes are formed by one, two, or three equal doses of oxygen.

The specifick gravity of nitrous gas is the mean of the oxygen and azote.

100 measures of carbonick oxyde and 50 of oxygen, make 100 of carbonick acid.

100 measures of azote and 300 of hydrogen, make 200 of ammoniacal gas.

100 measures of oxygen gas, at 1.111, and 200 of hydrogen, at 0.69, form water.

100 cubick inches of hydrogen weigh 2.117 grains; and the same combined with sulphur make 100 of sulphureted hydrogen gas, weighing 35.89.

The weight of an atom of oxygen is taken as unity, as the relative standard of other atoms.

100 cubick inches of oxygen, combined with burning charcoal, are 100 of carbonick acid gas, weighing 46.313 grains, of which the carbon weighs 12.641, and the original oxygen 33.672.

An atom of copper weighs 8; of platinum 12.161; of tin 14.705; of gold 24.838; of lead 26; and of iron 7.143.

An atom of carbon is 0.751.

An atom of sulphur is 2, or twice that of oxygen.

The oxygen in the acid of a neutral salt is a multiple of the oxygen in the base by 2, 3, 4, &c.

The weight of an atom of manganese is 6.833.

An atom of iron 7.143.

An atom of copper 8.

An atom of antimony 11.249.

An atom of silver 13.714.

An atom of platinum 12.161.

An atom of gold 24.838.

An atom of lead 25.974.

An atom of sulphur 2.0434.

The weight of an atom of ammonia is 2.128; of magnesia 2.503; of lime 3.62; barytes 9.7; oxalick acid 4.625, and it is a compound of 3 atoms of oxygen, 2 of carbon, and one of hydrogen.

In forming nitrous gas, by mixing oxygen and nitrogen, no condensation takes place. The bulk is equa to the bulk of the two, and the specifick gravity is the mean of both.

When 100 measures of carbonick oxyde and 50 measures of oxygen gas are united, the compound is but 100 measures; and when 100 measures of azote are mixed with 300 measures of hydrogen, they form but 200 measures of ammoniacal gas.

Sulphurick acid is 1 of sulphur and 1 five-tenths of oxygen.

Carbonick acid is 1 of carbon and 2.666 of oxygen.

The weight of an atom of oxygen is considered as 8, and an atom of hydrogen as 1, and an atom of sulphur is 16. 100 cubick inches of hydrogen gas weigh 2.117 grains; and 100 cubick inches of sulphureted hydrogen gas, of equal bulk, weigh 35.89; being 2.117 of hydrogen 33.773 of sulphur, or 33.445 of sulphur.

The weight of an atom of chlorine is 4.498.

The weight of an atom of hydrogen is 0.135, but it is taken as one-eighth, or .0125. Oxygen being the common integer or 1.

7.5, or 11.25, or 15 of oxygen combine with all the metals, and form protoxydes or peroxydes.

33.5 or 67 of chlorine form chlorides.

50.5 or 101 of nitrick acid form nitrates.

37.5 or 75 of sulphurick acid form sulphates.

20.7 of carbonick acid form carbonates.

25 of phosphorick acid form the phosphates.

15 or 30 of sulphur form the sulphurets.

Oxygenated water is a compound,

by weight, of 1 hydrogen and 16 oxygen, or equal volumes.

100 cubick inches of carbonick acid weigh 46.5 grains, and 100 cubick inches of oxygen 33.8 grains; hence the carbon is 12.7 grains.

100 cubick inches of carbureted hydrogen weigh 29.6 grains, of which the carbon is 25.4.

A cubick inch of water, ther. 60 deg. weighs 252.52 grains, and contains 28.06 grains of hydrogen, and 224.46 grains of oxygen. The volume of 28.06 hydrogen is 1325 cubick inches, of 224.46 grains of oxygen is 662 cubick inches; consequently, the cubick inch is expanded in the gases 1987 times.

4 volumes of nitrogen, with one of oxygen, form atmospherick air in all situations, high and low, hot and cold.

Copper filings and sulphur unite in the proportions of 80 copper to 20 of sulphur, and also 64 of copper to 32 of sulphur.

The sulphurick acid has 100 parts of sulphur to 150 of oxygen; the sulphurous is equal. Phosphorick acid is 100 phosphorus to 115 oxygen; and phosphorus acid is 100 to 58. Carbonick acid is 100 to 25; and boracick acid is 100 to 200. Nitrick acid, the base of which is nitrogen, is 29.77 nitrogen to 70.23 oxygen; and arsenick acid is 65 arsenick and 35 oxygen.

79 parts of nitrogen and 21 of oxygen make vital atmospherick air; 79 and 42 make nitrous oxyde, an intoxicating gas; 79 and 84 make nitrick oxyde gas; 79 and 168 make nitrous acid, fluid; 79 and 210 of oxygen make nitrick acid.

Modern theory considers the nonmetallick elements as, oxygen, whose *equivalent* is 8, chlorine 36, bromine 75, and iodine 124, as *electro-negative;* and hydrogen 1, nitrogen 14, sulphur 16, phosphorus 12, selenium 40, carbon 6, silicon 8, and boron 6, as *electro-positive.*

Their acid binary compounds are *electro-negative*, and the rest *neutral*, except ammonia (15) which alone is alkaline, basick, or *electro-positive.* Then the unions with *satiflable bases* of some of the twenty-two acids are *salts.*

Of the twenty-two neutral compounds—1 hydrogen (1) 1 oxygen (8) form water (9); 1 carbon (6) + 1 oxygen (8) form carbonick oxyde (14); 2 carbon (12) + 1 nitrogen (14) form cyanogen (26); 1 silicon (8) + 1 oxygen (8) form silex (16); 2 carbon (12) + 2 hydrogen (2) form carbureted hydrogen (14), the most important.

The equivalents of the metals are, antimony 44, arsenick 38, bismuth 71, copper 64, cadmium 56, chromium 28, columbian 144, gold 200, iron 28, lead 104, mercury 200, molybdenum 48, manganese 28, nickel 30, platinum 96, palladium 56, rhodium 44, silver 110, tellurium 29, tungsten 96, tin 59, zinc 34.

The natural metals afford nine acids, all from 2 arsenick, 2 molybdenum, 2 antimony, 1 columbian, 1 tungsten, and 1 chromium. 22 alkaline binary compounds, and 26 neutral. Their compounds being reduced at the negative or alkaline side of the voltaick battery, they are called *electro-negative.*

Chymical compositions always take place in definite proportions, which are determined by experiment; and as arithmetical seem to be mechanical, or subject to the laws of motion, arising from the forms of the atoms, or the combinations which facilitate or obstruct their motions when active, as in fluids or gases. What has been called elective attraction, affinity, and repulsion, are exemplifications of these laws of motion in different atoms.

All compound bodies, or the smallest portions of them, are composed of the same constituents, united in fixed proportions. This discovery was made by Higgins, Bergman, Kirwan, and Wenzell; and perfected by Richter, Berthollet, and Dalton. Gay Lussac showed that one volume of any gas always combines with one, two, or three of another gas: thus, one volume of ammonia with one volume of muriatick acid, produces neutral muriate of ammonia; or with one volume of carbonick acid, produces carbonate of ammonia.

Compounded bodies whose elements are gaseous, consist either of equal volumes of those elements, or if one

exceed the other, the excess is by some regular multiple of the volume.

The proportions in which oxygen combine are designated by the prefixes *prot*, for one degree, as *prot-oxyde;* for the second, *deut*-oxyde; for the third and upwards *per*-oxyde. The syllable *bi* is prefixed in other cases to signify a double proportion of either compound, as *bi* sulphuret of potash.

Eight parts by weight of oxygen and one of hydrogen, form water; hence the equivalent numbers of the three are 1, 8, 9. If oxygen be taken as 10, then hydrogen is 1.25, and water 11.25. These are the standards for the equivalents of all bodies. Water is also formed of one volume of oxygen to two of hydrogen. When water is decomposed by electricity, the hydrogen at the negative pole is double the volume of the oxygen at the positive pole.

The division of all substances into electro-negative and electro-positive, arises from the position they take when placed between the poles of a voltaick battery. Those which go to the *negative* pole are called *electro-positive*, and those to the *positive* pole *electro-negative*. Oxygen and chlorine are electro-negative, and hydrogen and nitrogen are electro-positive.

The solution of fixed bodies by fluids, arises from the atomick motions of the fluid, and as these are increased by heat, or more motion, the solution is more rapid. A lump of dry alum is thus dissolved in half the time in water at 80 deg., and in a fifth at 120 deg. Fluids of the same degree of motion mingle at once, others in longer time; and some give out, and some absorb heat in mixing. Some theorists ascribe these variations to attractions and repulsions; peculiar, if possible, powers which the phenomena do not demand. Motion is, of course, opposed to cohesion, and its withdrawal favourable to fixity. This is the repulsion and attraction of modern theorists.

The solution of solids always absorbs heat, or motion, and their resolidification gives it out. Fluids have also to dissolve one another, and hence produce heat or cold, as the resulting volume is less or more. Some atoms become fluid or gaseous sooner or later than others, and some fluids and gases have more or less motion in the atoms which compose them, and these circumstances create most of the phenomena of chymistry. Others, however, ascribe them to attraction and repulsion, while it is alleged by others that attraction and repulsion are impossible.

The oxydes of mercury, silver, gold, platinum, rhodium, iridium, osmium, nickel, paladium, and their binary compounds are reduced by heat alone, and are called electro-positive.

Lead, cobalt, copper, bismuth, arsenick, antimony, and eight others, retain and absorb oxygen at high temperatures.

Tin, iron, zinc, cadmium, manganese, and their binary compounds retain oxygen and decompose water at high temperatures.

Potassium, sodium, and other alkaline metals decompose water at the common temperature, and absorb oxygen at all temperatures. They are called metals, but it may be doubted whether they are other than *supersaturated* inflammables, such being the process by which they are artificially formed, either by galvanism, or other combination.

There are also five artificial metals derived from earths, but these and the six alkaline substances belong as metals rather to theory than to nature. The natural metals are twenty-eight in number.

Silica is the basis of the mineral world, and carbon of the organized.

Pure silex or silicon is a dark brown solid without lustre, and infusible.

Silex is acidulous and electro-negative in its affinities. By its insinuating powers it renders bodies acidulous or electro-negative in various degrees, down to potass, the highest electrick positive or alkaline substance. These terms electro-positive, and electro-negative, being equivalent to the acid and alkaline of the last generation of chymists. Electricity itself being nothing more

than a mechanical separation of the same pure and abstract elements.

Charcoal is made by burning piles of wood, and stopping out the air, in the manner of brick-kilns, or by exposing wood in sand in a crucible to a strong heat.

Charcoal destroys the taste, colour and smell of many substances. Vinegar boiled with it becomes limpid, and it destroys the colour and flavour of rum and other liquors; it also restores putrid water and tainted meat. Charcoal fires are dangerous in close apartments, for the oxygen is combined or fixed by it.

If charcoal from any wood is heated, it becomes a common elementary substance called CARBON, which absorbs moisture, air, and oxygen and hydrogen gases. If heated to 800 degrees in oxygen gas, the combination of the two is called carbonick acid gas, or fixed air, the specifick gravity of which is 1.518. It also unites with hydrogen called carbureted hydrogen, and its specifick gravity is 0.555, the weight of 100 cubick inches being seventeen grains, and this is the gas which is prepared at the gas works for purposes of illumination. Its combustion absorbs twice its weight of oxygen.

Sulphur, a volcanick product, has not been decomposed, and is therefore assumed to be a simple elementary substance. Its specifick gravity is 1.99. If heated a little above boiling water it becomes a brown transparent oil, and if burnt and the vapour condensed, it is sulphurick acid or a compound of sulphur and oxygen, in the proportion of one part sulphur to one and a-half oxygen; and when the proportions are equal it is called sulphurous acid; when sulphur is combined with hydrogen, it forms sulphureted hydrogen gas of the density of oxygen. As sulphur burns, i. e. fixes oxygen, it evidently contains hydrogen.

Sulphur burns with a pale blue light at 185 degrees; but it fixes so little oxygen, that is, creates so little heat that it may be burned at that heat in the gunpowder of which it is a part. Its vapours whiten silk and straw. Hydro-sulphurick acid is obtained by burning eight parts of sulphur and one of nitre in close vessels containing water, which absorbs the fumes. Evaporation yields oil of vitriol, which decomposes animal and vegetable substances, owing to its affinity for the water which they contain, and converts them into charcoal. Its concentrated state at a specifick gravity of 1.85 contains 81 per cent. of acid.

Acids and alkalies are to each other like negative and positive, and when mixed in equal proportions neutralize each other, and when neutralized, are in equal proportions.

Acids change blue, purple, and green colours of vegetables into red; and neutralize alkalies and earth. The elementary principle is oxygen. There are eighteen mineral acids, nine vegetable, and five animal.

Salts are compounds of acids with alkalies, earths and metallick oxydes: when the acid contains one degree of oxygen it terminates with *ite*, and when with higher degrees with *ate*. These are the generick names, and the name of the base of the salt is also added as muri*ate* of ammonia or phosph*ate* of lime from muriatick acid and ammonia, and from phosphorick acid and lime: thus there are muriates from muriatick acid, fluates from fluorick acid, borates from boracick acid, and phosphates from phosphorick acid, sulphates from sulphurick acid, carbonates from carbonick acid, nitrates from nitrick acid, oxymurates from oxymuriatick acid, arceniates from arsenick acid, oxalates from oxalick acid, tartrates from tartarick acid, prussiates from prussick acid, &c. besides phosphites, sulphites, and nitrites for lower degrees of acidity.

Iodine is a simple substance, of the specifick gravity of nearly five; its odour is like chlorine, and it is very active. It is of a violet colour, easily evaporates, and melts at 220 degrees; changes vegetable blues to yellow, and a seven-thousandth part converts water to a deep yellow colour, and starch into a purple. Five volumes of oxygen and one of iodine form iodick acid. It is made from *kelp*, of a dark gray colour and metallick lustre, and in its gaseous state is purple.

Magnesia is made from Epsom salts, by putting potash into a solu-

tion of it in water; the precipitation is magnesia.

Fluorick acid is a product of Derbyshire spar and sulphurick acid. Its specifick gravity is 1.06, and is very corrosive. It etches and corrodes glass.

The basis of phosphorus is calcined bones, digested with sulphurick acid, &c. &c.

Alkalies have the power of changing the blue vegetable juices to green, the green to yellow, the yellow to orange, the orange to red, and the red to purple. Acids change vegetable blues to red. Chlorine destroys all colours.

Alkalies consist of ammonia, potash, soda, and lithia. The alkaline earths are lime, magnesia, barytes, and strontian. The neutral earths are silica, allumina, ytria, glucina, and zirconia.

100 of pure potash are equal to 70 of concentrated sulphurick acid, and thus they are mutual tests.

Nitre or salpetre consists of six parts of oxygen, one of nitrogen, and one of potash. It is chiefly brought from the east, but it may be obtained by mixing the rubbish of old buildings with animal and vegetable matter, exposing them to the air in a dry place for some months. It is always a product of animal matter and of calcareous soil, and constitutes 75 of 100 parts of common gunpowder, the other 25 parts being half charcoal, and half sulphur.

Ammonia is a compound of hydrogen and nitrogen, and usually called volatile alkali. Davy, after galvanizing soda and potash, made an experiment to prove that there was oxygen in ammonia.

Davy, by compounding the galvanick elements with these alkaline earths, made substances which he called metals, as calcium, from lime, magnium, barium, and strontium. These from their earthy base provod heavier than the alkaline metals.

Allumina is the chief constituent of clay; it combines with lime, and hence the use of lime in iron stone.

Lime is obtained by burning parts of rocks and mountains which are often composed of it. When burnt, it is corrosive, and tinges blue vegetable infusions green; it is slacked by pouring water upon it, which becoming fixed and solid, gives out the excitement or heat which rendered it fluid. This is the cause of the heat which accompanies the slacking of lime; one-fourth in weight being water. Limestone, in its native state, is united with carbonick acid, which the burning drives off. Water then swells it and reduces it to powder, in which state it is converted into mortar, after which it combines with carbonick acid, and hardens again. Limestone by calcination, parts with 44 per cent. of its weight in carbonick acid gas. In slacking, it doubles in bulk, and imbibes the hydrogen of the water as mortar; and consists of 31 parts water and 100 lime.

Thenard enumerates 28 gases at the freezing point of water. Chlorine and its compounds are green, and nitrous vapour red. Hydrochlorick, fluoborick, fluosiliseck, and hydriodick produce white vapours. Inflammable gases, are hydrogen and its sulphurets, arsenurets, tellurets, selenurets, and potassurets; also hydrurets of phosphorus and of carbon, carbonick oxyde, cyanogen. Supporters of flame, are oxygen, oxyde of azote, and chlorine. Acid gases which redden litmus are sulphurous, fluoborick, fluosilicick, hydriodick, hydrochlorick, carbonick, and chloro-carbonick. Sulphurets and tellurets of hydrogen, and cyanogen, oxyde of chlorine, destroy the red which they first produce. Oxygen, azote-hydrogen, hydruret of carbon, carbonick acid, and oxyde of azote, have little odour, compared with others. Those soluble in one thirtieth of water are fluoborick, fluosilicick, hydrochlorick, hydriodick, sulphurous acid, and ammonia. The acid gases, sulphurets, and tellurets of hydrogen, chlorine, cyanogen, and ammonia are soluble in alkaline mixtures; and alkaline gas in ammonia.

The term gas, is German for ghost, and was first applied by Van Helmont and Mayow, who discovered their existence, but did not analyze them. All of them owe their existence to their own intestine motion, and if this is artificially or mechanically destroyed, they return to a fluid or solid state.

Galileo discovered the weight of the atmosphere; Boyle its elastick character and connexion with sound. Priestley, Scheele, and Mayow, in 1774, investigated its chymical relation. Its weight is to water as 1 to 828, and 100 cubick inches weigh 30.5 grains, the bar. 30, and ther. 60.

A bulk of 1000 at 32 degrees, becomes 1152 at 100 degrees, 1376 at 212 degrees, and 2797 at 1000 degrees. It consists of 79 azote or nitrogen, and 21 of oxygen or vital air in bulk. And their specifick gravities being 1.093 and .978, so 100 parts in weight are 77.44 of azote, and 22.57 of oxygen.

Chymists have been much divided about the proportions of oxygen and nitrogen in atmospherick air. Some make it 21 to 79. Some 22 to 78; and others, 22.9 and 77.1.

Air, with the barometer at 30 inches, and the thermometer at 55, is 833 times heavier than water, and a cubick foot of it weighs 1.2 ounces avoirdupois; the weight of a cubick foot of water being 1000 ounces; and a cubick foot of quicksilver 13600. Air will expand above 13000 times; air expands from .00209 at 1 deg., to 1 at 32 deg., 1.0476 at 54 deg., and 1.378 or 1.4 at 180 deg.; and all the gases expand in like proportion, or a 480th for every degree.

The pressure of the air keeps the gas among the atoms of fluids; and when removed, the gas escapes, and the atoms crystallize, as in freezing water under an air-pump.

A middle sized man consumes 46000 cubick inches, or 26 cubick feet, or nearly a cubick yard of oxygen per day, making 20 respirations in a minute, and 1.6 cubick inch at each.

The weight of the atmosphere compresses water about the 22000th of its bulk: spirits of wine the 15000th part; and mercury the 33000th part. The pressure of water at the depth of 500 fathoms, diminishes the bulk of the water a 27th.

Air contains about a 1200th part of carbonick acid gas, and a 70th of aqueous vapour. The causes of marshy and pestilential vapours have not been determined, but they yield to re-agents, as nitrick acid and oxymuriatick fumes.

The weight and elastick force of air raise water, in an exhausted tube, 33 to 35 feet, and quicksilver from 28 to 31 inches, a force equal to 15 lbs. to the square inch, or 20560 lbs. to the square foot. The weight of the whole atmosphere is thus, 12 quadrillion pounds.

A cubick foot of air weighs 1½ oz., hence, a column a mile high, and one inch base, weighs 43.2 ounces, and 15 lbs. are equal to 5¼ miles. It diminishes in weight as the distance, and in elastick force or reaction as the bulk or cube of the distance, together as the fourth power; but in density as the logarithm of the height; hence, at 44 miles, where it ceases to reflect the atmosphere, its density is considered but a 10000th of that at the surface.

Taking platina as 19.5 of water, and air as .0012, a cubick inch of platina is equal to 16350 cubick inches of air, and to 221000 of hydrogen as .0735 of air. Consequently, if platina were volatilized into hydrogen, and its atoms were as platina, the 10 millionth of an inch asunder, the same atoms as hydrogen would be but the 50th of an inch asunder. Water as steam at 285 degrees is 72000 times its own bulk, i. e. 3 million times rarer than platina; and *cæteris paribus*, its atoms nearly the third of an inch asunder.

Air, of the density of that near the earth, would be opaque in a thickness of seventeen miles.

Atmospherick air at a heat of 1035 degrees, expands 2½ times.

Air at the freezing point increases 100th part in bulk at 37 degrees, a 50th part at 42 degrees, a 20th at 60 degrees, a 7th at 100 degrees, a 3d at 190 degrees, and 0.37 at 212 degrees.

Fluids consist of minute atoms separated by gases, and the motion of heat creates this one degree of gasification, while another degree converts the whole into gas.

100 cubick inches of atmospherick air weigh 30.5 grains, of oxygen 33.8, hydrogen 2.1, nitrogen 29.7, chlorine 76.3.

The aqueous vapour in atmospherick air seems essential to animal and vegetable life; the dried winds of Africa called Harmattan being

very destructive. At 65 deg. one sixtieth is vapour, and at 90 deg. a cubick foot contains 12 grains of water. Hydrogen contains a 7th of its weight, oxygen the 110th, and carbonick acid the 140th.

100 cubick inches of air at 57 deg. contain 0.35 of a grain of moisture.

Under a receiver thoroughly exhausted, rare and dense bodies fall with equal swiftness. Most animals die in a minute or two, but some amphibia live hours. Vegetation stops, combustion ceases, gunpowder will not explode, magnets are equally powerful, smoke descends, water and other fluids turn to vapour, glow-worms give no light, a bell sounds very faintly, heat is slightly transmitted.

Wilkins and Lana first suggested the idea of ascending in the atmosphere by rarefied air, and one Galien of Avignon, in 1755 wrote a pamphlet on ærostation.

The first balloon of Stephen and Joseph Montgolfier, was a silk bag containing forty feet, which burning paper raised seventy feet. Their next was a bag of 650 feet, which rose 600 feet. Their third was 35 feet in diameter, and was capable of raising 500 pounds. It was raised before the publick, June 5, 1783. On the 21st of November, Pilatre de Rosier and the Marquis d'Arlandes ascended at Paris, and afterwards others, with air rarefied in the car by heat.

In December 1783, Messrs. Roberts and Charles ascended in a balloon inflated with inflammable gas, and after them Blanchard, Morveau, the Duc d'Orleans, and others. In September 1784, Lunardi made the first human ascent in England.

In January 1785, Blanchard and Jeffries passed from Dover to Calais, and soon after Rozier and Romaine perished in an attempted voyage from Bologne to England. In September 1802, Garnarin descended from a parachute near London.

On the 6th of September, 1804, Gay Lussac ascended at Paris to the height of 23000 feet.

The superficies of a balloon is computed by multiplying the square of its diameter by 3.146, or the cubick contents is the cube by .5236. Taking atmospherick air at 1.2 oz. to the cubick foot, we have the weight in air, and then, as carbureted hydrogen gas weighs 0.2, the weight multiplied by 0.2 gives the power of ascension, deducting the weight of the car, ropes, silk, &c.

Oxygen, the supporter of vitality and fire, was first discriminated as a distinct gas by Priestley, in 1774. Its existence was known to Scheele as empyrial air; but as the apparent antagonist of combustible gas or Stahl's phlogiston, he called it dephlogisticated air. 21 parts of it are in 100 parts of atmospherick air, and it is one eighth or one ninth heavier. 100 cubick inches of the latter weigh 30½ grains troy, and the same measure of oxygen weighs from 33 to 34 grains. Oxygen is obtained by simply heating black oxyde of manganese.

Acids change vegetable blues to red, and in combination with other bodies form salts. Their general principle is oxygen in combination. One proportion of oxygen has a termination *ous;* and a further proportion has a termination *ic.*

When oxygen is combined with any substance, and not acid, it is called an oxyde; and when rendered acid, the combination is called an acid. Water is a combination, 7 of oxygen with 1 of hydrogen, therefore called an oxyde of hydrogen. It may be decomposed by charcoal at a red heat; as in slacking lime, it sometimes combines with the solid, which is then called a hydrate. It boils at 212 deg. and generates elastick steam 1800 times its own bulk. A cubick foot is taken at 1000 oz., but is ten elevenths of an ounce less. A cubick inch weighs, at 40 degrees, 252.953; and at 60 deg. by expansion, is but 252.72 grains.

When carbonick acid gas is liquefied, its elastick force at 12 deg. is equal to 20 atmospheres, and at 32 deg. to 36.

Carbonick acid gas is a compound of 72 of oxygen and 28 of charcoal. It forms one-thousandth part of the atmospherick air, and is chiefly generated by combustion and the respiration of animals. Its specifick gravity is 1.518.

Carbonick acid gas is a product of fermentation, and being heavier than air it lies over all fermentive pro-

cesses, puts out a candle, and produces suffocation. At the bottom of wells and coal mines it causes the choke-damp, in which a light will not burn, but which may be dispersed by throwing water into it. It is carbureted hydrogen which takes fire in coal mines, and which, under the name of fire-damp, destroys so many miners.

Hydrogen, the phlogiston of Scheele and Priestley, is that gas which, when excited, immediately combines with oxygen and produces flame, by which the oxygen disappears, and a new concentrated substance is produced. From this connexion with flame Cavendish called it inflammable air, but it is now called hydrogen, because in bulk it is the chief constituent of water. It is contained in all bodies which burn with flame, and is separately produced by pouring dilute sulphurick acid upon iron filings. It is thirteen times lighter than common air; for 100 cubick inches of it weigh but 2.5 grains. Water is a compound of oxygen and hydrogen, in the proportion of 7.5 grains of oxygen to 1 of hydrogen.

Sulphureted hydrogen is poisonous, and the 250th part of it in the atmosphere has killed a horse. It tarnishes metals; it gives the flavour of rotten eggs to water, like that of Harrowgate.

Priestley discovered nitrogen to be the other component of the atmosphere. It is also called azote. It is the gas that remains after atmospherick air has been deprived of its oxygen; and it is found to be nearly four-fifths of the volume, or as 79 to 21. This separation may be effected by putting sulphur and iron filings into a close vessel; and they absorb the oxygen and leave the nitrogen. Its specifick gravity is .097, or rather lighter than common air. It appears in the atmosphere to dilute the oxygen or vital gas, for by itself it destroys flame and animal life.

Chlorine is an artificial gas: it is made by mixing three parts of sea salt with one of black oxyde (peroxyde) of manganese, and pouring on them four parts of sulphurick acid and water, in equal proportions. Then, by heat, the gas is evolved, of a yellowish-green colour, and offensive smell. 100 cubick inches of this gas weigh 76.3 grains.

1 chlorine (36) + 1 of hydrogen (1) form muriatick acid gas (37); 100 cubick inches of this gas, are formed of 50 cubick inches, or 38.1 grains of chlorine, and 50 cubick inches, or 1.05 grains of hydrogen, and, therefore, weighing 39.15 grains.

1 chl. (36) + 1 ox. (8) make protoxyde of chlorine (44); and 4 of ox. make peroxyde (68); or 8 of ox. perchlorick acid (100.) The chloride of nitrogen (158) is 4 chl. + 1 nit., and an oily fluid, very explosive and combustible.

As the chlorine gas supports combustion, it has been considered as a combination with another substance, which increases its density to 2.713. that of air being 1.000, and that of oxygen being 1.120. Some chymists maintain that it is an original simple substance.

The five heaviest gases are—

Chlorick gas	2.47
Nitrick acid gas	2.427
Sulphurous acid gas	2.097
Vapour of ether	2.25
Vapour of alcohol	2.1

The four lightest gases are—

Carbureted hydrogen	0.555
Arsenical hydrogen	0.529
Phosphureted hydrogen	0.352
Hydrogen	0.074

1 carbureted hydrogen explodes with 5 oxygen.

Gases mix equally, and when mixed do not separate. Dalton ascribes this to the particles being of different sizes.

Water, by weight, is 1 of hydrogen and 7½ of oxygen; and by bulk 2 of hydrogen and 1 of oxygen.

Sulphurick ether consists of—

Carbon	58.2
Hydrogen	22.14
Oxygen	19.66

Alcohol consists of—

Oxygen	37.85
Carbonate	43.65
Hydrogen	14.94
Azote	3.52
Ashes	0.04

Nitrick ether consists of—

Oxygen	48.52
Carbon	28.45
Azote	14.49
Hydrogen	8.54

Muriatick ether consists of—

Muriatick acid	29.44
Carbon	35.61
Oxygen	23.31
Hydrogen	10.64

Acetick acid, or distilled vinegar, is composed of—

Oxygen	44.147
Hydrogen	5.629
Carbon	50.224

Oxalick acid is composed of—

Oxygen	70.689
Hydrogen	2.745
Carbon	26.566

Tartarick acid consists of—

Oxygen	69.321
Hydrogen	6.629
Carbon	24.05

Citrick acid, prepared from the juice of lemons, consists of—

Oxygen	59.859
Hydrogen	6.33
Carbon	33.811

The substance of brain consists of the following constituents:—

Water	80.
White fatty matter	4.53
Red ditto	0.7
Albumen	7.
Osmazome	1.12
Phosphorus	1.5
Salts and Sulphur	5.15

Wax consists of—

Carbon	81.784
Hydrogen	12.672
Oxygen	5.544

Rosin consists of—

Carbon	76
Oxygen	13
Hydrogen	11

Copal consists of carbon 77, oxygen 11, and hydrogen 12.

Oak wood contains 42 oxygen, 52 carbon, and six hydrogen.

Beech contains 43 oxygen, 51 carbon, and six hydrogen.

Wheat and barley contain as under:

	wheat	barley
Silica	13.2	66.7
Carbonate of lime	12.6	24.8
Carbonate of magnesia	13.4	25.3
Allumina	.6	4.2
Oxyde of manganese	5.	6.7
Oxyde of iron	2.5	3.8

The quantity of each being 2 lbs.

Oats contain silica 144.2, and rye straw 152 silica.

One-twelfth of wheat is gluten, which consists of oxygen, hydrogen, azote, and carbon.

Autumnal wheat contains 77 starch and 19 gluten; spring wheat, 70 starch, 24 gluten.

Starch contains from 38½ to 45 of carbon, from 6 to 7 of hydrogen, and from 48½ to 55 of oxygen.

168 potato starch consist of oxygen 49.455; carbon 43.481; and hydrogen 7.064.

Mucilage from 36 to 45 of carbon, from 5½ to 7 of hydrogen, and from 48 to 55 of oxygen.

Sugar from 37½ to 43½ of carbon, from 6½ to 7 of hydrogen, and 50½ to 55½ of oxygen, according to the analyses of five or six different chymists.

Fermented sugar and water consists of 57 parts alchohol and 43 carbonick acid.

Sugar itself, per Berzelius, is 7 hydrogen, 44 carbon, and 49 oxygen.

Alcohol, 14 hydrogen, 52 carbon, and 34 oxygen.

Carbonick acid, carbon 27, oxygen 73.

The real quantity of alkali contained in the substances used in bleaching, of 100 parts is

American pearlashes	60 to 73
Russian pearlashes	52 to 58
White Dantzic do	45 to 52
Alicant barilla	20 to 33
Natron	20 to 30
Salt of tartar	72
Common Salt	53

Barley contains 43 parts of volatile matter, 72 of husk, and 269 of meal, of which last 20 are saccharine matter. A bushel weighs 50 lbs. and a grain is the third of an inch.

Ammonia is called volatile alkali; and potash and soda fixed alkalies. Ammonia is a compound of

81.5 azote
18.5 hydrogen

by weight; and in bulk three parts of hydrogen for one of azote. Ammoniacal gas passed through burning charcoal becomes *Prussick acid.* When combined with oxydes of gold or silver it renders them fulminating. Potash, or fixed vegetable alkali, is procured from the ashes of vegetables exposed to the air; it runs into liquid, and is very acrid and corrosive. Its specifick gravity is 1.7.

Soda is a mineral alkali, but may be procured like potash from ashes. Its specifick gravity is 1.34.

Albumen is an animal substance, of which the white of an egg is an example. It becomes a white coagulate at 165 deg., and if acids are united to it. It contains 53 carbon, 24 oxygen, 7 hydrogen, and 16 nitrogen.

Animal substances, besides the principles of vegetables, yield ammonia, sulphur, and phosphorus, and their compounds with carbon.

Oil and fat are compounds of carbon, hydrogen, and oxygen. Fat consists of two substances, one which melts at 50 deg. and the other at 105 deg.; the former oil and the latter suet. Butter made in summer contains 60 of oil and 40 of suet; but in winter 37 of oil and 63 of suet. Goose grease contains 68 of oil and 32 of suet. Olive oil contains 72 of oil and 28 of suet.

The perspiration from an animal body consists of water, carbonick, acetick, and phosphorick acids and soda.

The curd of cheese consists of 60 carbon, 11 oxygen, 7 hydrogen, and 22 nitrogen.

Olive oil contains 76 parts of carbon, 12 of oxygen and hydrogen, and 9 of hydrogen in excess.

Olive or table oil contains

Carbon	77.213
Oxygen	9.427
Hydrogen	13.36

Naptha is a bituminous oil, clear as water, and very volatile. Its specifick gravity is 0.8. Petrolium is darker than naptha, and obtained by distilling coals.

Tar, pitch, asphaltum, and pitcoal, are natural bitumens.

Precipitate of mercury consists of 100 parts mercury, and 8 of oxygen.

Sulphuret of mercury consists of 200 mercury and 16 sulphur.

Vermilion is 400 mercury and 32 sulphur.

Calomel is 200 mercury and 36 chlorine.

Corrosive sublimate is 200 mercury and 72 chlorine.

Sugar of lead is 112 lead and 50 acetick acid.

White vitriol is 40 parts sulphurick acid and 41 zinc.

Urinary calculi contains six acidulous combinations besides magnesia; silica and urea, urick acid, phosphate of lime and magnesia, and oxalate of iron are the principal.

Alcohol is the spirit of wine obtained from the distillation of fermented liquors, and from wine is called brandy; from the sugar-cane, rum; from malt or grain, whiskey and gin. The different flavours arise from the quantity of oil or resin, the bases being alcohol and water. Further distillation produces rectified spirits, the specifick gravity of which is about .85; but by further rectification it may be carried to 0.795. Pure alcohol is quite colourless and transparent; it never freezes, but evaporates spontaneously, boiling at 173¼ deg. Proof spirits are 0.92. When the gravity is higher they are under proof, when lower above proof. Perfectly pure alcohol is about 0.74. The flame is blue, and it leaves no residuum. The vapours consist of carbonick acid and water, and the bulk of water is greater than the alcohol.

Professor Brande's analysis of the quantity per cent. of alcohol, or pure spirit, in the following liquors:—

Scotch whiskey	54.32
Irish	53.9
Rum	53.68
Brandy	53.39
Gin	51.6
Port	22.9
Madeira	22.27
Currant	20.55
Teneriffe	19.79
Sherry	19.17
Claret	15.1
Champagne	13.8
Gooseberry	11.84
Elder	8.79
Ale	6.87
Porter	4.2
Cider	9.8 to 5.2

Rochelle salts consist of 54 tartrate of potash, and 45 tartrate of soda.

Sea water contains 1.35 of muriate of soda, .004 of muriate of magnesia, .0025 of Epsom salts, and .00125 of gypsum. It obstructs all light at 120 fathoms.

Urine contains no less than twelve

acidulous combinations, besides sulphur, resin, urea, albumen, and water when healthy; but in disease, other substances.

Thirty-eight several substances have been found in various mineral waters. The acidulous abound in carbonick acid. The chalybeate in iron. The hepatick in sulphureted hydrogen. The saline in salts.

Bristol or Clifton hot wells water is 74½ deg., and its specifick gravity 1.00077. A gallon contains 43¾ grains of sulphate of soda, sulphate of lime, and carbonate of lime, and four grains of muriate of soda. Also, 30 cubick inches of carbonick acid gas.

Buxton water is 82 deg.; and a gallon contains 11½ grains of calcareous earth, 2½ of vitriolick selenite, 2 of sea salt and azotick gas.

The waters of Aix-la-Chapelle contain 4.75 carbonate of lime, 5 muriate of soda, and 12 carbonate of soda. The gas is sulphureted hydrogen.

Alphabetical arrangement of some substances, &c.

Acids change purples and blues to red.

Alkalies change blue vegetable colours to green, and brown to yellow. There are three, potass, soda, and ammonia. They unite with acids and form neutral salts, and with oils form soap.

Prussick *acid* is a deadly poison obtained from Prussian blue. It is colourless, but smells like peach flowers, and freezes at 2 degrees, and very volatile. It turns vegetable blues into red.

Alabaster is the old name for certain kinds of gypsum, and that of Volterra is semi-transparent.

Allumina is often called argil.

Alum or sulphate of iron, is a salt used as a mordant in tanning, to harden tallow, and in whitening bread. It may be made of pure clay, exposed to vapours of sulphurick acid, and sulphate of potash added to the lie. But it is usually obtained by means of ore called alum slate.

Amalgam is quicksilver combined with metal, generally tin.

Some suppose *ambergris* to be ancient bees' wax extricated from strata by the ocean.

The best *anemometers* are those of Dr. Lind and Dr. Brewster.

The fluids of *animal* bodies in their chymical properties, are watery, albuminous, mucous, oleaginous, resinous, saline, gelatinous, and fibrinous. Of these the solids are continued secretions in laminæ, and fibres or filaments, or tissues.

Aquafortis is nitrick acid with sulphurick and muriatick.

Aqua regia is two of nitrick and one of muriatick.

Argol or archel is a colouring substance obtained from *lichens*, used by dyers to improve other colours. It is brought from Elba and the Levant.

Arnatto is a dying substance, prepared from reeds which grow in the West Indies and Cayenne.

Arrack is made from the juice of the tops of cocoa nut and palmyra trees. At Batavia it is made from *paddee*, rice in the husk.

The *air pump* effects a rarefaction from a 500th to a 2000th, and seldom much higher.

Sulphuret of *antimony* is used in pharmacy and called *antimony*, while the metal is called the regulus.

Artificial teeth are made of the tooth of the sea horse, harder than ivory.

Balloons are filled with carbureted hydrogen gas, and by the Gas Companies, for about 5*l*.

Balm of Gilead, or Balsam of Mecca, is made from the resin which exudes from incision in the bark of a plant belonging to the genus amyris which grows near Mecca and in Abyssinia; its virtues are frequently extolled in the Jewish scriptures. The balsams of Tolu and Peru are made from resins which exude from South American plants. In the East its applications are various.

Nitrate of lime is *Baldwin's* phosphorus.

Bell metal is three of copper and one of tin.

Blende is a native sulphuret of zinc.

The *bitter* principle prevails in quassia, gentian, hops, chamomile, and some others; it has been made artificially by different chymists.

Bone in its solid parts is phosphate of lime organized by membranes, arteries, veins, lymphaticks, and nerves, and in a state of constant change, like the rest of the body. Madder in food stains bones, and abstinence restores them, and the vessels so palpably convey the matter of bone, that in cases of necrosis or death of a bone, a new bone is formed as a case to the dead one, which may be taken away when the case becomes a perfect bone in all its functions.

The *brain* and heart are the chief instruments of the lungs and are alike insensible. The cerebrum may be pressed or cut without pain, and in the time of Harvey, a young man had his heart exposed by a disease, and Harvey handled it without his fingers being felt.

The lymph and serum is common to all *Blood*; but in insects it is transparent; in caterpillars green; in frogs yellow; in fish it is red in the vital organs and transparent at the extremities; in man the red particles are too large for some of the vessels, as the coats of the eye, the tendons, and serous membranes. It is deepest red in quadrupeds and less so in birds, while it varies in some, being deeper in the hare than the rabbit. In animals with a double circulation, the venous blood is a dark Modena red, but the arterial is a light scarlet, and is the fluid on which depends excitement and sustenance. Venous is to water as 1049 to 1000, and arterial as 1052. Disease makes it lighter, but in full health it rises to 1126, and Haller only, says to 1527. In man, its temperature is 98 degrees, in sheep 102, and in ducks 107, and the arterial is higher than the venous. In ague it falls from 98 to 94, and in fever rises to 102 or 105. In man the red particles are the 5000th part of an inch. In birds larger, more so in reptiles, and larger still in fish, and largest in the skate. The arteries contain more than the veins, and the quantity increases with the temperature. The solid part after coagulation is the crassamentum or clot, and consists of the lymph or fibrin and the red particles, of which the first is the most important part of the blood constituting the solid parts of the body and the basis of the muscles. On separation, it floats in a fluid called serum or albumen like the white of an egg. Hunter ascribes life to the blood, that is, that the blood itself is alive! The blood is a fifth of the weight of the body, and three-fourths are in the veins.

Zinc, charcoal, and copper form *Brass* in the proportion of a third or fourth of zinc.

Bronze is two parts brass and one copper, and the Greeks added one-fifteenth of lead and silver.

Bronzing is a wash by composition made by grinding gold leaf with honey which is washed from the gold with water; or it is made by combining sixteen parts of tin, eight of mercury, eight of sal ammoniack, and seven of flour of sulphur. Red lead gives it a copper shade. There are other preparations for bronzing different substances.

Bromine is obtained from sea water and the ashes of sea weeds. It is red, poisonous, and very volatile.

Brown's patent engine creates a vacuum by the alternate admission and combustion of carbonick oxyde gas, which he makes from water and coke.

Butter melts at 96 degrees. It is formed by the act of churning and is not suspended or diluted in the cream, but is generated by contact with the air or some peculiar combination.

Forty grains of mercury and ten and a half of chlorick gas form *calomel*.

Carmine is made from cochineal.

Carbonate of soda is formed by passing a current of carbonick acid into a solution of soda, and it becomes a hard solid mass. Its crystals are octahedrons, with prismatick apexes. Carbonate of potash is made like the other with potash instead of soda.

Caoutchouck, or Indian Rubber, is

formed of a gum which exudes by incision from two plants which grow in Cayenne and the Brazils, called *hævia caoutchouck*, and the *jatiopha elastica*. The resinous substance, as it hardens being formed round clay moulds. The *urceola* which grows in the Indian seas also affords this gum as well as some other plants. Its specifick gravity is 0.9335. It is very inflammable; when distilled it gives out ammonia, water, oil, and charcoal. In South America they make with it bottles, boots, torches, and also balls to play with.

White oxyde of lead is *ceruse*.

Carbonate of lime is *chalk*.

Civet is an excrement taken from a glandular receptacle near the tail of the civet cat, chiefly the male; and they are kept and fed so as to increase the secretion.

Chlorine gas destroys the volatile effluvia of putrefaction and infection; and a solution of the chloride of lime, is bleaching powder, and employed for this purpose. A table-spoonful, in a wine-glass of water, spread on a plate destroys all infection, and purifies the air of sick chambers, infected houses, removes smells from drains, privies, &c.

The *charcoal* used in gunpowder is distilled in iron vessels, from willow, alder, and some other woods. 100 parts of oak make 22 of charcoal; of beech 20; of deal 19, glossy black; of elm 19½, black; of ash 18, glossy black; birch 17, rich black.

100 parts of shavings of dry wood produce one-fourth of *charcoal* by slow combustion.

Chocolate is a preparation from the cocoa-nut, which is ground into powder made into cakes, and flavoured with spices.

A *chromate* of potash and ammoniacal sulphate of copper form the coloured transparent liquid with which apothecaries illumine their shops.

21 cubick inches of *chlorick* gas and 40 grains of mercury, form corrosive sublimate.

Green oxyde of *copper* is the rust of copper.

Acidulous tartrite of potash is *cream* of tartar.

Cream is the lighter unctuous part of milk which rises to the top; and by churning it is further separated into butter and buttermilk. Milk, when sour, may be fermented, and it will yield a vinous liquor; and also take the acetous fermentation Its constituents are water, oil, curd, gelatine, sugar of milk, muriates of soda and potash, phosphate of lime and sulphur. The cream is thickest in the milk of the cow, goat, and ewe. In women and asses it is whiter and thinner, affording less cream and soft butter. Mare's milk is like cows', but it affords less cream and poor butter.

Chloride of lime is the bleaching powder. Strata of slacked lime are exposed to the action of chlorine gas, in chambers; and the lime absorbs the gas, which, of course, gives out much heat, and forms a white powder that destroys all colours.

One part of mercury and two of sulphur become *Æthiop's mineral*, now called sulphuret of mercury. When this is exposed to a red heat it forms cinnabar, which is the vermilion used by the ladies. It consists of 85 parts of mercury, and 15 of sulphur.

The *eau de vie* of the French is white brandy, distilled from wine.

Enamel is made of powdered glass, oxyde of lead and tin, and salt of tartar, with coloured substances.

Substances which chymists cannot analyze are called extract, or the *extractive* principle, and it appears in vegetable substances chiefly. The red of madder and the yellow of weld, is called extractive principle.

The *eudiometer* is founded on the principle that the oxygen in the air combines with nitrous gas by which the bulk of the air is diminished in various degrees, so as to measure the quantity of oxygen previously combined with the azote.

To prevent mischief from *explosion* in chymical experiments, it is usual to wrap the vessels in cloth.

A candle makes a distinct flame in the *flame* of alcohol.

Fulminating powder is 3 nitre, 2

potass, 1 sulphur. Preparations of gold, silver, and mercury are also fulminating.

There are three kinds of *fermentation*, the vinous, acetous, and putrefactive, which generally succeed each other. The *vinous* fermentation arises from the saccharine principle in sugar or malt. When sugar only, yest is necessary. At 32 deg. it stops, at 50 deg. is slow, and at 70 becomes acetous. The gas disengaged is carbonick acid, carbon being carried off, and the atmospherick air being not absolutely necessary. Flavour arises from essential oils, and intoxicating properties from alcohol. Thenard thinks that the carbon of yest abstracts the oxygen, and then the hydrogen and carbon of the sugar combine with the hydrogen and nitrogen of the yest. The *acetous* follows the other, and the presence of air is necessary, and chymists conceive that the oxygen of the air combines with the carbon of the vinous fluid. The temperature rises to 85 or 90 deg. The *putrefactive* affects all animal and vegetable substances. Air and heat are missing. Vegetables give out hydrogen and carbon, and under water the hydrogen only, and the residuum is charcoal; but in air the carbon becomes carbonick acid. Animal substances evolve the same —and ammonia, also sulphur and phosphorus in their unpleasant odours.

Fluxes, in a large way, are lime or spar, and in the small way alkalies, as nitre and tartar.

The *foil* of looking-glass is tin and quicksilver. Globes are foliated by the addition of quicksilver and lead.

Gin is malt spirits, flavoured with oil of turpentine, combined with various substances. Geneva or Hollands is made from wheat, and flavoured with juniper berries.

Gems consist of silex, lime, and oxyde of iron. The ruby, sapphire, and topaz are essentially the same, but so distinguished by dealers from their colours, &c.

Glass is formed by combining, in a state of fusion, fixed alkalies with silica, and the occasional addition of litharge, oxyde of iron, or manganese. That called flint glass is made of fixed alkalies, calcined flints, and litharge or oxyde of lead. Ground glass is made of fixed alkali and siliceous sand, with oxyde of iron for a green tinge, or oxyde of manganese for a purple tinge. Bottle glass consists of lime fused with silica and allumina, with iron and manganese.

Flint *glass* is generally made of 100 sand, 6 red lead, and 3 pearlash, with some manganese to correct the green colour.

Plate *glass* is made of 43 sand, 26.5 sub-carbonate of soda, 4 quicklime, 1.5 nitre, and 25 broken glass, which make 75 of glass.

Crown *glass* is made of 50 sand and 110 kelp.

Bottle *glass* is made of soap-boilers' waste and river sand; or of sand, lime, clay, and sea salt.

Oxyde of cobalt tinges *glass* green; oxyde of iron or copper, green; of manganese, violet; of iron and copper, red; of gold, purple; of silver, yellow; and of arsenick and zinc, white.

Gallick acid is the astringent principle. It is formed from nut-galls, a substance formed on oak trees.

Glue, size, and isinglass are various forms of animal gelatine. Carpenters' glue is made of the skins of animals; and old animals make the strongest glue.

The violet rays of light tend to produce *green* colour, by decomposing carbonick acid.

Gum Arabick is obtained from a species of mimosa, called nilotica, a native of Egypt. The gum tragacanth is a native of Crete, and more adhesive than gum Arabick.

Gum consists of the same as sugar, with two tenths more oxygen and less carbon.

The Chinese are said to have invented *gunpowder* soon after the Christian era, and to have used it in cannon. In 1249 an Arabick author describes its use in fireworks and shells; and it seems to have been used in Europe in ordnance at the beginning of the 14th century. The Chinese use the same proportions as the English government, which is,

75 of nitre,
10 of sulphur,
15 of charcoal.

In France, the proportions are,
77 of nitre,
9 of sulphur,
14 of charcoal.

The gaseous products of 100 grains are 91 cubick inches, and the solid products 54 grains. The gases are azote 42 inches, carbonick acid 30 inches, carbureted hydrogen 9, sulphureted hydrogen 4, nitrous gas 6, making 91; and the solid contents are 40 grains of sub-carbonate of potash, 11 of sulphate of potash, 3 of charcoal, and ½ of sulphur.

The explosive force of *gunpowder*, as compared with the pressure of the atmosphere, is estimated at from 1000 to 2000 atmospheres. A cubick inch produces 236 inches of elastick fluid, and if rammed into half its space, it produces 472 inches of gas.

Gunpowder does not explode by heat at less than 6000 of Fahrenheit. Its force of explosion, when closely confined, is 6½ tons to a square inch. When the air is dry it discharges a bullet 1700 feet in a second; and when very damp, but 1200 feet. 10 parts of tin and 100 of copper make gun metal or brass guns.

Hungary water is made by distilling 2 lbs. of rosemary with two quarts of spirits of wine.

Hydrogen and carbonick oxyde absorb half their volumes of oxygen.

Hydruret of phosphorus inflames spontaneously, and fixes much oxygen.

Jade is a species of talc, and used by the Hindoos and Chinese for god-making.

Indigo is prepared from the leaves and small branches of the *indigofera tinctoria*—of which there are two varieties. It is also prepared in England from *merium*, and isatis or woad. It is the blue, or sulphate of indigo, of the dyers, and a very important article.

The scales on hot *iron* arise from the absorption of oxygen, and are called black oxyde.

Carbonate of *iron* is the rust of iron.

100 grains of *iron* burnt in oxygen gas increase to 130, with great heat and flame, proving the compound nature of the metal.

Isinglass is made of the sounds of sturgeons, a fish which sometimes is 18 feet long and 700 lbs. weight.

White *lead* is made by exposing sheets of the metal to fumes of vinegar. Arbor saturni is made by suspending a piece of zinc in acetate of lead. Solder is two of lead and one of tin. All preparations of lead are deleterious. When wine is sweetened with litharge, it may be detected by sulphureted hydrogen, in a black precipitate. Ores of lead in veins occur in siliceous rocks, and sometimes in calcareous.

The best candles for *light* are those made from vegetable tallow and wax, or cocoa-nut; and the whitest light is produced from the last or from vegetable oils, duly purified, as in France.

Light arises from the heat of the carbon, &c. in connexion with the combining gases, for these alone give little light; but by their condensation afford the intense motion which disperses the carbon as light.

The flashes of torches used on the stage are made by the fine dust, or seeds of *lycopodium*, or club moss.

Light matches are made of phosphoret of sulphur.

Liquor of flints, or silicated alkali, is two or three parts of potash with one of silica.

Litmus is made from the archil lichen. Acids turn its purple to red, and alkalies the red into blue.

Crystallized carbonate of *lime* is calcareous spar.

One grain of sulphate of *lime* will render 2000 grains of soft water hard.

Fluate of *lime* is fluor spar.

Lunar caustick is nitrate of silver.

4 lbs. of oak bark make 1 lb. of *leather*, but 1 lb. of catechu earth is equal to 8 lbs. of oak bark.

Lamp black is prepared by burning resinous substances in close rooms, and collecting the smoke on woollen cloths, which are brushed; and to expel the oil from this soot, it is heated to redness in an iron vessel.

Madder is the root of the *rubia tinctorum*, which grows in Europe. It gives a deep red dye, susceptible of changes by alkalis, &c.

Manure owes its stimulating power

to salts of ammonia, or volatile alkali. Human soil affords three times as much as that of any animal.

The regulus of *metals* means the pure metals.

Mercury imbibes one fifth per cent. of oxygen, and becomes a black powder, and by further oxydation it becomes a red precipitate; it then contains ten per cent. of oxygen.

Two of copper and one of tin make concave *mirrors* for telescopes.

Minimum or red lead is a double or deutoxyde of lead made from the protoxyde or *massicot*. Specifick gravity 8.9, and 90 lead with 8 oxygen. Lead ore generally contains silver.

Mosaick gold is the peroxyde of sulphur and tin.

Musk is a secretion of certain species of deer, and accumulated in a bag the size of a small egg and hanging from the belly. For this trifle they are in Thibet hunted and slaughtered by thousands. Canada contains a rat the size of a rabbit with the habits of the beaver, which secretes a musky fluid near the tail, and is a victim to avarice, which makes from 25 to 50*s*. per ounce of the article. There are also musk seeds the size of a bean.

Morocco leather is goat's skin.

The *narcotick* principle in the white poppy produces opium which is its concrete milky juice.

The *nails* are coagulated albumen and phosphate of lime.

Naphtha is fluid bitumen; petroleum, viscid bitumen; and asphaltum is hard bitumen. It is combined with vegetable substance in coals.

The *nitrogen* in animal substances distinguishes them from vegetables. In decomposing after death, vegetables display their oxygen by their acidity, and animals their nitrogen by their alkalinity, by forming ammonia.

Nitrick acid is spirit of nitre.

The breathing of *nitrous* oxyde gas produces exhilaration and a species of intoxication.

Nitrick acid is aquafortis.

Nitro-muriatick acid is aqua-regia.

Oils are found in eighty or ninety plants or trees, as the olive, linseed, aloes, rape seed, *carstan*, and from the *ricinus communis*, &c. Wax is produced from the myrica cerifera which flourishes in North America. It is green, burns with a white flame, and the shrubs yield from 5 to 7 lbs.

Expressed *oils* are animal and vegetable and are called fixed oils; their specifick gravity varies from 0.9 to 0.97; they boil at 600 degrees. Exposed to the air they absorb oxygen and become solid as transparent drying oils, or opaque fat oils; if burnt and rendered viscid they make printer's ink; with fixed alkalis, fat oils.

Volatile or essential *oils* are distilled with water from vegetable substances, of which they constitute the fragrance; the specifick gravity of oil of tu pentine is only 0.792, while that of sassafras is nearly 1.1. They consist chiefly of carbon and hydrogen and evaporate rapidly in open vessels.

Rancid *oils* convert vegetable blues into red.

Olifiant gas or hydruret of carbon absorbs three times its volume of oxygen, and forms twice its volume of carbonick acid. Water absorbs eight times its volume of oxyde of chlorine.

Four grains of *opium* are equivalent to a tea spoon or 100 drops of laudanum.

Opodeldock is a solution of soap in alcohol, with camphor and volatile oil.

Pakfong is a mixture of 118 zinc, 5 copper, and 13 nickel.

Parchment is prepared skin of sheep or goats.

Pearlash—potash or subcarbonate of potash, is obtained from the ashes of burnt wood or vegetables; thus, 1000 lbs. of wormwood ashes produce 748 lbs. of potash, stalks of sun-flower 349, fermitory 360, beech 219, &c.; the ashes are boiled and the lie is evaporated in iron pans. American ashes are thought the best.

Pearls consist of concentrick layers of carbonate of lime and membrane.

Pearls and mother of pearl are

procured from the mytilus margaritiferus, a muscle of the Indian seas, about eight inches long.

Pewter is tin alloyed with a 20th of copper, and generally with proportions of lead, zinc, bismuth, and antimony.

In 1782, Dr. James Price of Guilford, pretended to have discovered the *Philosopher's* stone, and published an account of his experiments, but being a fellow of the Royal Society, he was required on pain of exclusion to repeat his experiments before Messrs. Kirwan and Woulfe, but after some equivocation, he took poison, and died in August 1783. He presented specimens of his gold to the King and the Royal Society, and pretended that they were made by a red and white powder.

Phosphorick acid is a very abundant substance combined with lime, and composes mountains in Spain, &c. It also abounds in ores and animal substances.

Pinchbeck is 3 zinc and 4 copper.

Potassium is formed by exposing a hydrate of potash to a voltaick circle of 500 double plates of four inches, when the substance appears at the negative pole, oxygen being developed at the positive pole. It is also made by melting potash with iron turnings in a gun barrel.

One thousand parts of spirits of wine have, by mechanical force, been *pressed* into 934, olive oil 952, rain water to 954, and mercury to 997.

The most powerful known poison is *prussick* acid, called hydrocyanick, and formed from iodine, cyanuret, and mercury. The acid in a state of vapour at a moderate heat fills the retort and condenses. A single drop put on the tongue of a large dog kills it instantly. It appears to destroy the nervous system. It reddens vegetables, and its constituents are two volumes of carbon, one of hydrogen, and one of nitrogen; it may also be extracted from bitter almonds. *Prussick* acid is also obtained from green tea, and souchong is as effectual in poisoning flies as arsenick.

Prussiate of iron is Prussian blue.

Sir John Pringle determined the power of various salts to arrest *putrefaction* or decomposition as under—

Sea salt	1
Vitriolated and soluble tartar, and mindererus	2
Sal ammonia and saline mixture	3
Nitre, hartshorn, and wormwood	4
Borax	12
Salt of amber	20
Alum and myrrh	30
Bark	120
Camphor	300

But *pyroligneous* acid or condensed steam of green wood baked in an oven is the most powerful antiseptick known; and the smoke of wood fires and charcoal act on the same principle.

Ratafia is spirits flavoured with kernels of different fruit.

Realger is a red combination of 80 arsenick and 20 sulphur. Orpiment is another combination.

Rennet is the inner coat of the stomach of young animals, generally that of the calf. It coagulates milk and produces cheese.

Tartrate of potash and soda is called *Rochelle* salt.

Saliva contains saline matter and albumen, and gastrick juice has the same constituents. The *chyme* in the stomach is converted into *chyle* in the small intestines, by mixture with bile and pancreatick secretion. In some animals it has been examined, and is a white fluid, with a sweetish taste and coagulates. Its principal component is albumen, and the serous part is like sugar of milk; in animals that feed on vegetables it is more transparent, and the coagulum is more albuminous. It is absorbed by the lacteals, and being mixed with lymph is carried into the venous system.

All the metals are formed into *salts*.

Thus, there is muriate of gold, which, with tin, makes the purple of Cassius.

Nitrate of silver, called lunar caustick.

Nitrate of copper, which detonates.

Acetate of copper, called verdigris

Sulphate of zinc, called white vitriol

Tartrate of potash and antimony, called tartar-emetick.

Muriate of cobalt, which is sympathetick ink, being without colour when cold, but turning green when held to the fire.

Antimony and chlorick gas form butter of antimony.

The quality of *saltpetre* is inversely as the angle of refraction, and 5 deg. is called par. 1 per cent. is allowed for every degree above.

Salt of sorrel, or super-oxylate of potash, is what is called *salt of lemons*. It dissolves the oxyde of iron in the ink.

Salt of tartar remains dry at the top of very high mountains, though it liquifies at their base.

Salt cracks in the fire owing to water in it being vapourized.

All cattle thrive best if supplied with *salt*. Horses will consume 6 oz. daily, cows 4, and sheep ½. It is used as a preventive of the rot.

Unknown *salts* are determined to be nitrates by mixing them with muriatick acid, when chlorine is evolved.

Muriate of ammonia is *sal ammoniack*.

Carbonate of potash is *salt* of wormwood.

Shagreen is the skin of the hound-fish, called the shagree.

Chamois leather is the skin of the chamois goat.

Shells consist of carbonate of lime and animal gluten.

Soda water is made by combining eight times its bulk of carbonick acid gas, formed in the process from chalk and dilute sulphurick acid, to which is added some carbonate of soda.

Muriate of *soda* is table salt.

Soap is chiefly made of kelp, or the ashes of sea weeds dried and burnt in pits. Its refuse is used in making glass bottles.

The best *soap* is made of olive oil in the south of Europe. In England it is made of whale oil or tallow, and to give it a yellow colour rosin is added. Soft soap is made with potash, and hard with soda. *Soap* of ammonia is volatile liniment.

Waters which contain earthy salts decompose common *Soap*, and form a new soap, which is insoluble in water.

Spruce beer is made of water, treacle, and the essence of spruce.

Only two *Specificks* have been discovered in medicine, bark in agues and mercury in syphilis.

Variety in the constituents of *Soil* is essential to fertility. It is barren when nineteen-twentieths are of one substance; hence lime or marl improves sand or clay.

Water passed over wheat flour carries off all the *Starch*, which falls to the bottom, and leaves the tough substance called *gluten*.

Starch consists of 50 oxygen, 44 carbon, and 6 hydrogen.

Starch becomes sugar by boiling for 48 hours in 100 of water and 1 of sulphurick acid.

The liquor of burned *Sulphur* is sulphurick acid, and when combined with soda it forms Glauber's salts; with magnesia, Epsom salts; and with copper and zinc, vitriol; all sulph*ates* when the acid is strongest, or sulph*urick*; or sulph*ites*, when the acid is sulphur*ous*, or weak.

Sugar has latterly been clarified by boiling it at a low heat in vacuo. So the essential oils are purified at a low heat, and their odour preserved.

Sulphate of soda is Glauber's salt.

Sulphate of magnesia is Epsom salt.

Sulphate of allumina is alum.

Sulphate of lime is plaster of Paris.

Sulphuret of potash is liver of sulphur.

Saltpetre is nitrate of potash.

Super-acetate of lead is sugar of lead, and a solution of it is Goulard's extract.

Sulphate of iron is green copperas.

Sulphate of copper is blue copperas.

Sulphate of copper is blue vitriol.

Sulphate of barytes is ponderous spar.

Tannin, the principle of the sub

stance used in the tanning of leather, is made from nut-galls, which are likewise a constituent of writing ink:—3 parts of nut-galls, 1 of logwood, and 1 of green vitriol, boiled in water, making the best ink.

Tannin is found in nut-galls, bark, catechu, kino, sumach, and old fustick.

A test of genuine *Tea* is a grain and a half of sulphate of iron; genuine green tea has a bluish tint; bohea, a blackish blue. If adulterated, it is all colours.

Tin plates are made by cleaning iron plates with acid, and then dipping them in melted tin.

Tin, united with mercury, is the silvering of looking-glasses.

Tin and antimony are pewter.

Acetous acid is distilled *Vinegar*.

Sulphurick acid is spirit of *Vitriol*.

Sulphate of copper is blue *Vitriol*.

The chymistry of *Vegetation* consists in the decomposition of the aqueous solution of the soils, and recombination of the elementary constituents in the membranes, fibres, and cellular and vascular tissues in the bark, wood, pith, and marrow. The fine membrane forms mucilage, and in cells, chiefly hexagonal, pervades the whole plant. The chymical decompositions in plants are believed to be effected in the leaves, in which the sap is exposed to the action of the air.

Vegetables are composed of carbon, oxygen, and some hydrogen, with nitrogen; and they mainly produce gluten, farina, mucilage, oil, and sugar.

Among *Vegetable* secretion the milk of the cow tree is remarkable. It grows in barren situations in South America, but on boring exudes a copious supply of rich nourishing milk.

The chymical power of plants are proved by fuci, which thrive without roots; and the epidemdrimi grows, flourishes, and blossoms, when suspended in a room, merely by decomposing the air and vapour.

The maximum density of *Water* is at 42½ deg. and it expands as cooled to 32 deg., the freezing point; and in freezing further expands, so that a cubick inch of it has displayed a force of above 27000 lbs.

If *Water* is saturated with a third of its weight of salt, it will still dissolve sugar; and water saturated with carbonick acid will dissolve iron.

The difference between Thames and distilled *water* is as 1.0006 to 1. Rain water is equivalent to distilled water.

Water may be saturated with oxygen by the peroxide of barium. When, at the specifick gravity of 1.45 it acts as a caustick on the skin.

Zinc and copper make brass, pinchbeck, Dutch gold, &c.

OPTICKS.

The ancients were familiar with the elementary principles of opticks, and Euclid and Ptolemy developed them in formal treatises. They appear also to have been acquainted with the use of convex and concave glasses; but the former do not appear to have been applied to spectacles till the 13th century. Roger Bacon about 1250 described telescopes and microscopes exactly, and yet neither were made till the beginning of the 17th century, when one Metius, at Alkmaer, and Jansen, of Middleburgh, made them about the same time. Another Dutchman of the name of Drevel soon after made microscopes. Galileo imitated their invention by its description, and made three in succession, one which magnified a thousand times; and having with these discovered Jupiter's moons and the phases of Venus, telescopes soon became very popular, and were improved by Zucchi, Huygens, Gregory, and Newton; and finally by Martin, Hall, Dolland, and Herschel. The famous microscope of Lewenhoeck consisted merely of small glass drops or spheres. Prisms were first used in Italy, and their powers developed by Grimaldi. The theory of the rainbow was explained by Descartes; and the solar microscope was invented by Dr. Hooke.

The *Galilean* telescope has a concave eye glass, and is clear and shorter than those of Kepler, with

Huygens' three convex eye-glasses to set the figure upright. The *Gregorian* reflector has a small concave speculum for the image, and a large one facing for the object, with an aperture in the middle. The *Cassigrain* has a small convex speculum instead of the small concave. In Newton's plan, the small speculum was plane at 45 deg. and the eye piece in the side, but Gregory's and the Cassigrain are preferred. Herschel's 40 foot is in Newton's form, with a tube of sheet iron. The eye-glasses with which it magnifies 6400 times, are one-fiftieth of an inch focus. His discoveries were, however, made with five feet achromaticks, and his great telescope was a toy: the mirror would not keep its figure. Dr. Brewster has suggested a great improvement by receiving the image through an achromatick prism, and so refracting it to the eye-piece, while it greatly increases the light.

In *Achromatick* telescopes, the colours of refraction through any single glass are corrected by combining glass lenses of different dispersive powers, as crown glass and flint glass. They were first made by More Hall about 1723, and were sold by Dolland in 1757. The object-glass is composed of two convex lenses of crown glass, and one concave of flint glass; or sometimes of one of each. The curvature, to be multiplied by the focal length of the whole, should be as follows:—

1st lens, convex crown 0.6087 · · 0.8696
2d lens, concave flint 0.4544 · · 0.6087
3d lens, convex crown 0.6067 · · 0.6087

With two glasses—

1st lens, convex crown 0.293 · 0.353
2d lends, concave flint 0.345 · · 1.148

or for 30 inches, 8 inches and 14.3 for the first; and 12.11 and 28.5 for the second lens, taking the specifick gravity of the flint glass at 3.354, and the ratio of refraction in the two, as 1 to 1.656. In eye-glasses, the concave should be crown and the convex flint; the first 0.64, the second 0.5, 3; and the third 0.64 multiplied by the focal length: and in double eye-glasses, 0.32 and 0.529.

Only 45 of 100 rays reach the eye pure after two reflections by a telescope, and these by the eye-glass are reduced as 100 to 95, or to 42.

The speculums of reflecting telescopes are 32 copper, 15 grain tin, 1 arsenick, 1 brass and 1 silver.

The magnifying power of a telescope is the quotient of the focal length of the object-glass by the eye-glass, or one of the eye-glasses.

In Herschel's 40 foot reflector, the great speculum was 48 inches diameter, 3¼ inches thick, and 2118 lbs. and it magnified 6400 times.

In 1821, a 25 feet reflector, on the direct principle, was set up at Greenwich, by Ramage, of Aberdeen.

The relative aberration of glasses from a spherical figure is in a plano convex 4½ times its thickness. A convex lens whose sides are 1 and 6, is 1.08 its thickness. An equal double lens is 1.57 its thickness.

The best form of a *lens* is a double convex, whose radii are 1 and 6. The 1 being towards parallel rays the aberration is but 1.07, but the 6 towards them makes it 3.45.

Spherical aberration is avoided by a lens, part of an ellipsoid, whose greater axis is the index of refraction, and the distance of the foci 1. The second surface being concave, whose centre is the other focus of the same spheriod. Also, if one surface is plane and the other part of a hyperboloid, whose greater axis is the index of refraction, and the distance of the foci 1.

The surface of a true concave mirror is a paraboloid. In reflecting telescopes the mirror is an ellipsoid.

The microscope enables us to detect animalculæ the 10000 of an inch long; and if half as broad and thick, a cubick inch would contain 10000 × 20000 × 20000 = 4 millions of millions, yet moving and perfect.

The highest lenses of Lewenhoeck's microscopes were but the 20th of an inch. They magnified the diameter 100 times, and the surface 10000 times. The 59th of an inch magnifies the same 500 and 250000. An inch focus magnifies but 5 and 25, and a half inch 10 and 100.

The microscope detects globules with important functions in the blood, the chyme, the chyle the lymph, the milk, the pus, &c. It also displays globules equally active in vegetable organs. Animation ap-

pears to begin with a globule, called the *monas termo*, a transparent point visible with the microscope, and found among infurioso.

Newton, in 1671, measured seven colours in the prismatick spectrum, 18½ feet from the prism, and 10¾ inches long and 2½ wide. He determined the red to be 45, the orange 27, the yellow 40, the green 60, the blue 60, the indigo 40, and violet 80, parts of 352: the hole admitting the light being one-third of an inch in diameter. The light consisted of an infinite number of circles or shades, but those tints were so discriminated by him. Grimaldi had previously described the same colours and had discovered that the hole generates the same colours by passing near any bodies creating fringes within, and without a shadow.

In Newton's prism the sine of incidence being 50, the sines of the extreme rays were 77 and 78.

It has since appeared that the colours depend on the size of the hole; thus Drs. Young, Brewster, and others, find that a hole the 20th of an inch gives but four colours, red 16 parts, light green 23, blue 36, and violet 25 of 100 parts, with a stripe of yellow equal only to 1. Hence Newton's measure is incorrect. The dispersion is one degree.

The dispersive power and the proportion depends also on the substance of which the prism is made. In a prism of flint glass it is 0.48; of crown .033; but chromate of lead is .4; oil of cassia .139; fluor spar and crysolite but .322; water .335; and sulphurick acid .031. As to proportions, the mean ray in crown glass divides the green and the blue. In flint glass the boundary is much nearer the red; but in rock crystal it is much nearer the violet; and in oil of cassia nearer than in flint glass.

The red is least turned aside and the violet most, and these are called least and most refrangible. The *illuminating* power is greater between the yellow and the green. The violet approaches to blackness. —Light appears to be a constant consequence of combustion, or of the union of oxygen with excited hydrogen, under a vast variety of combinations with carbon and other matter.

White light is a compound of many degrees of excitement when passed through a prism, and thereby subjected to oblique refraction or reaction. These various excitements are separated into an oblong figure, the lower or straightest end of which is red, with shades to orange; then with shades to yellow; then with shades to green; then with shades to blue; then to indigo; and then to violet and negation.

In the prismatick spectrum, violet rays indicate *heat*, as 1, green as 4, yellow as 8, and red as 16; beyond the red, no peculiar action exists. Some philosophers ascribe the colours to this difference of intensity; and hence painters call blue cold, green soft, yellow rich, and red warm. Musicians have similar notions. . . . . .

Herschel ascertained that the extreme heat of the spectrum was 1½ inch beyond the red end, but others say at the red end. Ritter and Wollaston found that the violet end, and beyond, blackened muriate of silver, and a little beyond, and when blackened at that end, it was restored to the red end. In violet, phosphorus emitted white fumes in the red, but was arrested in the violet. Morichini and Mrs. Somerville have magnetized needles in the violet rays Dr. Wollaston added other facts, proving the deoxydating power of the violet end, and the oxydating in the red.

The extraordinary experiments of Fraunhofer make the red and other rays of the prism, in seconds, from

	Red	Other cols.	Dispersion
Crown glass . . .	361	1336	=1697
Flint do.	437	1726	=2163
Water	305	1398	=1703
O. turp., no violet	625	2060	=2685
Alcohol, do. . . .	395	1125	=1520
Sulph. ether, do.	380	1150	=1530

He found five colours, but only four in the last bodies; but he discovered that the entire spectrum was crossed by black lines, of which he counted 590 from the extreme red to the violet.

The polarized pencils of Iceland

spar gave the same colours as other light, and the same black lines.

The intensity of light was in the red 2, in the orange 30, in the yellow and green 100, in the blue 32, in the indigo 18, and violet 3.

Very thin plates of transparent bodies become coloured, and the thinnest black, so as to reflect no light; while, according to thickness, the various colours are produced. When convex lenses are used to produce these thin plates, by laying them on each other coloured rays are produced. The colours produced by reflection and transmission, taken from the centre, are as under, in perpendicular rays.

1. Black	White
2. Blue	Yellow
3. White	Black
4. Yellow	Violet
5. Red	Blue
6. Violet	White
7. Blue	Yellow
8. Green	Red

and so through seven series.

The thickness of one was the millionth of an inch, and in water $\frac{3}{4}$ths; and of 2, $2\frac{2}{3}$, and in water $1\frac{1}{3}$; and for No. 7, $15\frac{1}{3}$ millionth, and $11\frac{1}{3}$. They appear to be explained by the determinations of Dr. Young and M. Fraunhofer, and to arise from the extent of waves. Newton, in his characteristick way, ascribed them to fits of easy reflection and transmission!

As minute bodies make coloured rings, which increase inversely as the bodies, Dr. Young contrived an *Eriometer* to measure such bodies and small fibres. He thus determined that the seed of lycopodium is the 10500 of an inch, or 3.5 on his scale, every part of which is the 3000th of an inch. The atoms of milk were 3, or the 9000th of an inch; of human blood 7; of fibres of silk 12; of cotton 19; of Saxony wool 22; of South Down 25 to 39, coarse wool 60.

The colours of bodies depend on the size of their atoms and the chymical character of the local atmospheres of their atoms and interstices. Black has small atoms and absorbs light—white, large, and reflects it. Reds are of oxygen character according to Ellis, greens nitrogen, and violets hydrogen. Their minute parts decompose incident light, and absorb some and reflect others; an oxygen body combining with hydrogen, and reflecting red, and the contrary with others; thus a hydrogen atmosphere absorbs red, &c. and reflects blue, indigo, &c. and a nitrogen absorbs red and violet, and reflects green or white, orange or blue.

The colours of bodies are produced on the same principle as the colours of their plates, and are owing to the thickness or thinness of the atoms so that the sizes of the atoms may be inferred from their colours on Newton's data. To greens he assigns atoms the 15 millionth of an inch. To scarlets the 19 millionth. To oranges the 17 millionth. To yellow the 16 millionth. Vegetable greens the 25 millionth. Blues and purples the 14 and 12 millionth. Sky blue the $2\frac{3}{4}$ millionth. Pure white, as silver, the 5 millionth. Other whites are from 15 to the 25 millionth. Black varies from $\frac{1}{4}$ to 2 millionths of an inch. This theory of Newtons' seems to stand.

Late experiments of Mr. Ellis prove that the green colour of plants arises from their nitrogen character, that red colours arise from oxygen, and indigo and violet from hydrogen.

Solar light blackens muriate of silver, but in the spectrum the violet, purple, and blue rays effect it in 15 seconds, and the red only in 20 minutes, and the effect is more rapid beyond the violet end. Gum-guiacum is said to show contrary effects.

Buffon combined plane glass mirrors only 6 inches by 8, and with 40, set on fire a tarred beech plank 66 feet distant. With 98 at 126 feet; with 112 at 138 feet; with 154 at 150 feet; with 168 at 200 feet; and he melted all the metals at 30 or 40 feet.

Concave burning mirrors have been made of great size and power. They concentrate the sun's image at half the focal length. One of 4 feet diameter made of copper and tin, melted iron ore in 24 seconds, a sixpence in $7\frac{1}{2}$ seconds, a halfpenny in 20 seconds, tin in 3 seconds, cast

iron in 16 seconds, and slate in 3 seconds. Water boils immediately and evaporates, wood flames in a moment, pumice stone becomes glass, earth yellow or green glass.

The full moon produces no heat.

Concave wood or pasteboard, gilt and polished makes as good a focus as metal.

Parker made a glass lens 3 feet in diameter with 6 feet 8 inches focus and 3¼ inches thick at the centre. It fuses slate in 2 seconds, pure gold, platina, nickel, and cast iron in 3 seconds, pure silver in 4 seconds, pebble, barytes, and lava, in 7 seconds, steel and bar iron in 12 seconds, limestone in 55 seconds volcanick clay, Cornish moor stone, and rhomboidal spar in a minute.

Gold retained its metallick state though exposed for hours. Wedgwood's pyrometrical clay ran into white enamel in a few seconds. The lunar rays gave no heat.

The rays were concentrated about 4000 times if the focus was the quarter of an inch in diameter.

One of the most curious speculations in natural philosophy is that of concentrating or multiplying the heat of the sun by plain mirrors, concave mirrors, or convex lenses. As one plain mirror reflects the heat of the sun, so the reflection of two, three or more augments the heat. In this way Archimedes burnt the Roman fleet at Syracuse; and Antheonius, an architect at Constantinople describes the method, and so does Leonard Digges, who wrote on it in the reign of Elizabeth and asserts that he fired bodies half a mile distant.

A plain mirror of half the length shows the whole body.

The crystalline lens in the human eye is composed of thin laminæ. At 25 the edges begin to be yellow, and at 80 the whole is like amber.

The optick nerve enters the eye .11 of an inch from the axis of the eye on the nasal side. The axis is .91. The pupil varies with light from .13 to .27. Focus of the cornea and crystalline .69. Angle of vision taken in by the fixed eye 110 degrees. Diameter of a female crystalline taken by Dr. Brewster .378, thickness .172, refractive power 1.384. Refractive vitreous humour1 .34, and aqueous 1.336.

The smallest visual angle is half a minute, and its size on the retina the 8000th of an inch.

Light is 8 minutes 8 seconds in its transmission through the distance from the sun to the earth, and in this time the earth in its orbit moves 20 minutes of a degree, creating an aberration from its true place.

Light is an effect of various excitements besides combustion. Friction produces it, and phosphori produce it, snow, diamond, the Bologna stone appear to absorb and radiate it; some combinations evolve it, and some plants give flashes. Rubbing the eyes in the dark, and their inflammation produce flashes of light. Slacking lime produces light and great heat.

Fraunhofer has determined the breadth of waves of light to be as under, in parts of an inch,—

Red	.00002582
Orange	.00002319
Green	.00002073
Blue	.00001912
Indigo	.00001692
Violet	.00001572

The intermediate spaces are black, or when the waves mingle they are light. In various colours, therefore, no microscope can exhibit an object less than half those measures.

Dr. Young maintains that light is the affection of a continuous medium so rare and elastick as to permit bodies to move through it without resistance.

Roemer proved the velocity of light to be 200000 miles per second by the accelerations and retardations of the eclipses of Jupiter's moons as nearer or more remote in Jupiter's orbit.

Light in passing through bodies does not increase their temperature and adds only to temperature in opaque bodies, or in proportion to opacity.

If the quantity of light when the sun is vertical be taken at 750, at 75 degrees it will be 742; at 60 degrees 718; at 45 degrees 666; at 25 degrees 507; and at 10 degrees 200.

The theory of the rainbow was

accurately developed by Kepler and Descartes in diagrams, just such as now appear in books. Father Grimaldi had ascertained the powers of the prism, and published a book relative to its peculiar phenomena; and Newton, in repeating these experiments, made several valuable inferences, and pursued the subject so as to confer on opticks the character of a science.

The inner rainbow has an angle of 41 degrees from the centre of the solar axis, and is 1 degree 46 minutes from *violet* to *red*; the outer bow is 52 degrees, and 3 degrees 12 minutes wide from *red* to *violet*. Or, the outer rainbow is 52 degrees to 55 degrees, and the inner 40 degrees to 42.5 degrees, the colours in the two being reversed.

The horizontal moon and sun surprise by their apparent magnitude, but all magnitudes are increased in the horizon; the first 5 degrees are apparently to the eye equal to 10 or 15 at 50 or 60 degrees of elevation, and the first 15 degrees fill a space to the eye equal to a third of the quadrant. This is evidently owing to *the habit of sight*, for with an accurate instrument, the measure of 5 degrees near the horizon is equal to 5 degrees in the zenith, and if the angle of the sun or moon be taken, either with a tube or a micrometer, when they appear to the eye so large in the horizon, the measure is identical when they are in the meridian, and appear to the eye and mind to be but half the size. There are two causes for this mistake, one, that we infer distance from intervening objects, and also size from brightness; and the angle being the same and the brightness less, the mind treats it as an object farther off, but of a given size, and therefore sees it larger.

Transformation of visual colours:

A square of red, long viewed, produces a light green border, and afterwards a square of light green,—

White produces black, and black white.

Red, blue·····purple, green
Blue, yellow····green, red

A wheel painted in prismatick proportion requires 80 degrees violet, 40 degrees indigo, 60 degrees blue, 60 degrees green, 48 degrees yellow, 27 degrees orange, 45 degrees red; and if any colour is taken out and the wheel turned, the remaining colour is a transformed colour as above. It is ascribed to the subsequent sensibility of the nerves first affected, by which they, as it were, take no cognizance of the same colour when mixed with others. It is altogether a curious subject and ably discussed in Brewster's Cyclopedia. In general, the new colour is removed half way in the spectrum, as though there were two spectra one beginning at the middle of the other.

Refraction appears to be a variety of reflection, and a continuity of reflection, from atoms to atoms in a medium called transparent. The light illumines the whole mass, but a principal ray prevails, and the law of the reflections is called the law of its refraction.

The sine of the angle of incidence being one, the sines of the angles of refraction are in constant ratios, as under, in the following bodies:—

Chromate of lead	2.974
Diamond	2.755
Melted Sulphur	2.148
Glass, three lead, one flint	2.028
Glass, two lead, one sand	1.987
Glass, two lead, one flint	1.830
Glass, one lead, one flint	1.787
Glass, three lead, four flint	1.732
Glass, one lead, two flint	1.724
Oil of Cassia	1.641
Common flint glass	1.605
Quartz, ordinary ray	1.548
Quartz, extraordinary ray	1.558
Plate glass	1.542
Crown glass	1.534
Crown glass (common)	1.525
Oil of turpentine	1.476
Olive oil	1.470
Sulphuric acid	1.440
Alcohol	1.374
Ether	1.358
Salt water	1.343
Crystalline humour,	1.384
Water	1.336
Ice	1.310
Tabasheer	1.111
Air	1.000276
Vacuum	equal.

The refraction of gases, air being 1, is per Dulong, oxygen .924; hydrogen .47; nitrogen 1.02; carbonick acid 1.526; olefiant 2.302; chlorine 2.628.

Hydrogen or inflammable sub

stances of equal density refract from two to seven times more than others.

Taking the atmospherick refraction at unity, then the refraction of

Oxygen	Arago		0.8616
Hydrogen			6.61436
Do.	Berzelius		7.0335

According to Brewster, the index of refraction is the tangent of its angle of polarization.

Of 1000 rays of incident light on water at an angle of 80 degrees, 333 are reflected and the remainder refracted; at 60 degrees 65 reflected; at 40 degrees 22; and from 30 to 0 degrees 18. In mercury the reflection is 704 to 40 degrees, and even 666 at 0 degrees, double water at 80 degrees. Plate glass at 80 degrees reflects 412, at 60 degrees 112; at 40 degrees 34; and from 30 to 0, 27 to 25. At 75 degrees Lambert made the refracted and reflected light equal. White paper reflects half at 45 degrees, and water but 28 of 1000, and glass but 42. In glass mirrors 535 are reflected, and 465 absorbed or dispersed. In Herschel's mirrors two-thirds were reflected at 90 degrees.

Bodies which refract most, reflect most, or are more splendid. The local atmosphere which increases one increases the other.

Air at less than half a millionth of an inch thick, ceases to reflect light; water at three-eighths and glass at one-third. At 72 millionths air reflects white, water at 58 millionths, and glass at 50 millionths, according to Newton.

The double refraction, or double picture of an object, which is presented through calcareous spar, is ascribed by Huygens to light passing through those bodies in a spheroidal form instead of circular, as in other solid transparent bodies. His various discoveries in opticks were made about the year 1650; and he teaches, that light consists of undulations produced by luminous bodies on the fluid which fills all space. The same was the opinion of Euler and many others. Descartes ascribed it to a protrusion from atom to atom in the same universal fluid. Newton taught, that they were innumerable particles flowing and travelling from the luminous body with a velocity of a million of miles in five seconds!

Polarized light is never derived from the light of combustion, or any artificial flame; only by reflection, by transmission through plates, or through crystals, which produce double refraction.

The test of polarized light is, that it refuses to be reflected by the surface of a transparent body when it is incident at an angle of 56 degrees, and in two positions which are at right angles to each other, discovered by turning the surface round the ray. The angle of incidence for water is 52 degrees, 45 minutes.

All the light is reflected which falls on water at an angle of 48 degrees, 28 minutes; and at the angle of 53 degrees it is polarized. In common crown glass it is all reflected at 41 degrees 49 minutes; and polarized when reflected at 56 degrees, 45 minutes. Diamond, 68 degrees; air, 46 degrees; and rock crystal, 57 degrees 22 minutes.

It is rationally doubted whether the qualities assigned to light by some experimentalists of polarization, &c. &c. exist in the light, for all the circumstances may be as clearly explained by considering light as mere power, subject to simple reaction, and then varied reactions of different bodies, atmospheres and forms, are considered as producing the several effects.

Fraunhofer in his optical experiments, made a machine in which he could draw 32,900 lines in an inch breadth.

There are 7700 veins in an inch of coloured mother of pearl. Iris ornaments of all colours are made by lines on steel from 2000 to the 10000th part of an inch.

Impressions on the eye are permanently continuous which are repeated seven times in a second, and on this is founded the rotatory toy called the Thaumatrope.

Looming high, mirage, fata morgana, &c. arise from the air at different heights being of unequal refraction, by which, rays from distant objects are bent downwards to the eye of the spectator. so that ob-

jects below the visual horizon, or 17 miles at sea, are seen above it. A hot poker will display the same effect; or by looking at objects through liquids of different refractive powers in a glass vessel.

A difference of temperature of 3.6° in two places, creates irregular refractions between them.

Water obstructs one-half the perpendicular rays of the sun in 17 feet, and one-fourth in 34 feet; and only a 100-thousandth part reaches the depth of 300 feet; hence the bottom of deep waters is in total darkness.

When the sea is a blue colour, it is deep water; and when green, shallow.

A ball of lime ignited affords a very strong light, equal in the focus of a mirror to numerous argand lamps.

Reflection is in intensity, as the difference of refractive power in the media.

The smallest parts of bodies are transparent, and opacity is caused by multitudinous reflections owing to atomick spaces or interstices, vacant or filled with water or gas.

The smallest atoms are black or too small to reflect light, and this is the case when they are less than the 8-millionth part of an inch.

Bodies are transparent, says Newton, when the pores are so small as to prevent reflection.

The luminous appearance of the sea is ascribed to microscopick mollusca and the parts of dead ones, which adhere to bodies immersed. On a starlight night it appears like varied reflections of the stars from inclined surfaces.

Halos are occasioned by crystals of ice in the atmosphere, or small hail drops partly melted.

Halos are about 23½ degrees in diameter, or exactly double.

The film of a soap bubble about to burst is only about three-fourths of the millionth of an inch in thickness.

The photometer determines the quantity of sunshine at noon to be from 90° to 100° at midsummer, and in midwinter 25° to 28°. A northern light at noon, in summer is from 30° to 40°; and in winter from 10° to 15°. In gloomy summer weather it is from 10° to 15°, and in winter only 1°.

One of the most interesting exhibitions in London, is Carpenter's room of powerful microscopes, and a solar microscope, in Lower Regent Street.

ELECTRICITY, GALVANISM, MAGNETISM.

All electrical action is without the surface of what is called the conductor, or in the space between two opposed conductors; and a conductor is as powerful if made of gilt tissue paper as of solid gold. The conductor is, in fact, a mere boundary surface, the electrick action being in the space between two surfaces. The sparks are the mere effect of the distance of the intermediate space, being a minimum at the place where the spark is taken. The light of the spark arises from the recombination of the elements which have been separated. A brush always attends the discharge of positive electricity towards negative, and a star the contrary.

The bodies which conduct electricity, by becoming imbued with it, according to the old theory, or by resisting its action like water in metal pipes, according to the new theory are as under:—

Metals,
Dry charcoal,
Mineral acids,
Dilute acids,
Metallick ores,
Fluids and water,
Ice to 13° below zero,
Vegetables and animals,
Smoke and steam,
Rarefied air,
Salts,
Vapours,
Natural earth and stones,
Powdered glass.

The bodies that are non-conductors, which on one theory receive no electricity, and on the other display its entire action, are oxydes and ashes, ice lower than 13° below Zero, hard silicious bodies, porcelain and baked wood, air and gases, dry skins and paper, cotton, feathers.

hair, wool, silk, gems, and vitrifications, glass, fat and wax, sulphur and resins, amber and gum-lac. Both series are arranged in the degree of their conducting and electrick power, for all are so in various degrees.

Gum-lac is the most perfect non-conductor, and an excellent coating.

Davy determined that substances which act distinctly upon each other electrically, are also such as act chymically. Of two metals, that which has the greatest chymical affinity for oxygen, acquires positive electricity, and the other negative; thus, zinc becomes positive with reference to iron, tin, lead, copper, silver, gold, platina, in the order in which they oxydate, and so with each as to the other. In contacts of acids with bases, the acids are negative, and the bases positive.

The scale of conductors ends with earths and stones, and of non-conductors begins with dry metallick oxydes and oils. A thread of gum-lac is the most perfect insulation, 1½ inch being equal to 15 inches of dry silk thread.

No electrical excitement can be acquired by a body in the air, unless another body at a distance in the same air is in an opposite state; and the excitement depends on the surfaces, not on the substances of the bodies, being as powerful between silver paper, covered with gold leaf, as solid gold. These facts are fatal to all the theories about a fluid or fluids, especially as it appears by delicate experiments of Coulomb and Biot, that the excitement, whether positive or negative, is entirely on the surface.

Otto Guericke first observed the spark and light of electricity. Dr. Wall first noticed the resemblance of electricity to thunder and lightning.

The Leyden phial in electricity was discovered by Von Kleist, of that city, about 1744.

The best conductors for electrical machines are flat, and opposed above and below by others of equal size. The best conductors to preserve buildings are leaden gutters, with lead or copper ridges connected.

Experiments both in electricity and galvanism prove that what is called the positive wire or end, or positive electricity, acts like an acid on blue vegetable infusions, by converting them into red; and also what is called the negative end, has the effect of an alkali, and converts the blue infusion into green. In like manner, if the positive and negative wires are made to act in acetate of lead, the acid is neutralized by the positive end, while the metal is surrounded by the metallick particles. This is considered as a proof that what is called positive electricity is anti-alkaline in its character; and what is called negative electricity is anti-acidulous.

A simple galvanick circle consists of a plate of zinc and a plate of copper, with an acid solution between them. A power similar to positive electricity moving from the copper to the zinc. A compound circle is when the same combination is repeated any number of times. By the process the zinc is oxydated, and negative electricity is continually circulating from the zinc to the copper. The zinc end being called the positive, and the copper or silver end the negative pole; the effect really being from the copper to the zinc, because the two extra plates at the end of a compound circle are superfluous.

Though galvanick and electrical phenomena arise from the same cause, the separation of the acidulous and inflammable principles, yet fifty pair of plates scarcely affect the gold leaf electrometer, and pith balls will not diverge with much fewer than 1000, and then exhibit very slight actions and re-actions, commonly called attractions and repulsions.

The light of the stream which passes from the poles of the wires when pointed with charcoal, is in vacuo of a dazzling purple colour, in air various, and the heat is so intense that it melts platina, fuses quartz, lime, &c., and converts other refractory substances into vapour. If the battery consist of 100 pair of plates, about six inches square, the light is occasioned by the simple union of the two elements, because it takes place in non-combustible gases. All the parts of the apparatus partake of the increase of the heat, that at the poles being no more than the final development. Gold leaf burns with

a blueish white light; silver, green; copper and tin like gold; lead, purple; zinc, white, fringed with red; mercury is dispersed in splendid sparks. All the chymical changes which galvanism produces prove that its positive electricity is derived from the oxygen in the fluid, and the negative from the anti-oxygen principle, which chymists sometimes define as alkaline, and sometimes as inflammable. The zinc plate becomes an oxyde of zinc, and its hydrogen disengaged, producing a current of negative electricity, while the oxygen flowing to the surface of the zinc, produces a counter current. The copper unaffected is a mere conductor and reactor until it becomes coated with particles of the oxyde of zinc, carried to it by the hydrogen current. In the mean time the apparatus is surrounded with more oxygen than the zinc will appropriate.

If the positive end be put into a blue infusion it converts it to red; and the negative in another vessel, converts the blue to green; and the same characteristick effects attend the action on metals, while, as it is a case of identical restoration, its effect on intermediate bodies, like that of electricity, is very capricious. The intensity of action appears to arise from the fluid containing a higher proportion of the elementary causes than the air in the production of common electricity, while the volume is less.

The mechanical action is so intense, that it converts sulphurick acid into oxygen and sulphur, and other acids into their elements, carrying an opposite element to the opposite pole; and even decomposes earths, or gives them new characters.

The action is produced by the contrasted degree in which the metals are affected by oxygen; the highest is zinc, then tin, iron, lead, copper, silver, gold, platina, which latter are tne lowest in oxygen assimilation. When alkaline solutions are used, the negative becomes positive, and positive negative; and iron in the last follows copper.

If water conducts 1, muriatick acid conducts 2.46, and acetick acid 2.4; and in equal quantities of galvanick action, they conduct in .4 of the time.

Mr. Morgan found that a perfect vacuum exhibited no electricity.

Pouellit conceives that the conducting powers of metallick wires are inversely as their lengths.

Davy's experiments depended on the nature of the galvanick power which he never considered, but by uniting the oxygen of the galvanism with the alkalis, he converted soda into a substance which he called sodium, and potass into potassium, a species of evanescent metallick atoms. Soda thus imbibed from the galvanism 2 parts in 7 of oxygen; and potass 1 in 6. Their specifick gravities to water, are as 9 to 10, and as 6 to 10, or double and treble that of cork.

The positive wire in galvanism combines with oxygen and chlorine, and the negative pole with hydrogen and nitrogen. Therefore the first two are called electro-negative, and the last two electro-positive, because they act on bodies contrary ways.

The grand electrical battery of Van Marum was 130 square feet. The galvanick battery of the Royal Institution consists of 2000 plates 4 inches square, or 222 square feet.

Oxydation of metals creates or accompanies electrical action. In the common machine the electricity is promoted by the oxydation of the amalgam, and therefore the best is made with tin and zinc.

It is stated that a machine acts as well in hydrogen gas and in carbonick acid gas as in atmospherick air, for like air, they are non-conductors of electricks.

When a discharge is made through a solution of sulphate of copper, the metal revives round the negative wire, and the effect changes as the wires are made positive or negative; the negative wire always separating oxygen from its combinations, and the positive wire effecting the union of oxygen with the bases. In solutions of neutral salts the earthy bases appear at the negative, and the acids at the positive wire.

Coulomb, by a series of very accurate experiments, determined that the action of magnets is reciprocally as the squares of the distance.

It appears by Barlow's Experi-

ments, that the power of a magnet as of an electrical conductor does not depend on the quantity or solid contents, but on the extent of surface presented to the air. Thus a piece of wood covered with thin layers of magnetick ore, and a conductor of silver paper, covered with gold leaf, are as powerful and efficient as magnets of solid ore, or conductors of solid metal of equal superfices.

The actions and reactions of the load-stone and iron were known to the ancients, but polarity was not discovered till the 12th century. The first mariner's compass was shown at Venice in 1260, by Paulus Venetus. In China it has been used from the earliest times.

By recent delicate experiments of Arago, &c. it appears that all metals as well as iron or nickel are non-magneticks; and in relation to electricity are like non-electricks, consequently the identity of electricity, galvanism, and magnetism as varied effects of common causes seems to be more closely established.

In 1662 the magnetick and terrestrial meridians coincided at London, but since that time the variation increased in 1818 to 24° 17′ west. When first observed at London, about 250 years since, the variation was 11° 15′ east, or one point. In Baffin's Bay it is from forty to fifty degrees. There is also a daily variation observed by Beaufoy of from 6 minutes to 15, and the greatest in summer. The sun seems, therefore, to generate the delicate electricity which produces magnetism.

The northern voyagers agree that there is a magnetick pole at about 70° north lat. and 90° W. long.; and Hansteen places another in 85° N. lat. and 101° E. long.

In Iceland the present variation is 40° west; and in Greenland 51° west; at Petersburgh 8° west; and so near as Stockholm 15° west; while at Christiana it is 20° west. On the western coast of America it is from 20° to 35° east.

The magnetick equator intersects the earth's equator, and gives no variation at 108 degrees, 125°, 175°, and 335°, reckoning westerly.

The curves produced round magnets by particles of steel dust, do not arise from any current, but each particle acquires a north and south pole; and if needles were employed, each would range itself in the direction of the curve, and be found to have acquired contrary poles.

Magnetick ore when found has no polarity, but acquires this property in the air, and then is capable of transferring it to bars of steel.

Every particle of the surface of a magnet has two poles, and the power at the ends is the accumulated power of all the atoms operating as by acceleration.

In north latitudes, the south pole of the magnet raises most iron and *vice versa.*

Every bar of iron which does not lie in the plane of the magnetick equator is essentially magnetick; or, in other words all particles of iron have a disposition, by some peculiar action and reaction, to range themselves in the plane of the magnetick equator. If a poker for example, be simply held perpendicular to the horizon, it will, as the result of its position, exhibit magnetism at both ends; and it will occasion the north pole of the compass to recede at its lower end and cause an approach to the south pole, and *vice versa.* If it be laid in the plane of the magnetick equator, no action and reaction will take place; or, if it be laid east and west in the line which intersects the plane of the horizon and the plane of the magnetick equators, no action takes place; but if while perpendicular to the horizon or parallel to the magnetick axis, it be struck at the ends with a hammer or vibrated by friction, then the magnetick action is facilitated or increased, and its affections on a compass are greatly increased. On the other hand, after being so excited, if struck, on being laid in the plane of the magnetick equator, the excitement instantly abates.

If a needle or small bar of iron be set on the end of the poker, and both are struck, the needle or small bar become at once a perfect needle, adapted to every purpose of a compass. These experiments are decisive of all the hitherto puzzling phe

nomena of magnetism. For if we suppose that there is some circulation in the plane of the magnetick equator, and that iron, as the only non-magnetick or impervious body, by reaction, produces a force tending to conformity, then there is no difficulty in explaining all the phenomena, and all the supposed attractions and repulsions of magnetism.

ASTRONOMY.

The British Museum contains the original work of Copernicus on the Solar system. Its title is—

"NICOLAI COPERNICI TORIENSIS de REVOLUTIONIBVS ORBIUM cœlestium Libri VI.—Habes in hoc opereiam recens nato, & ædito studiose lector, Motus Stellarum, tam fixarum, quam erraticarum cum ex ucteribus, cum etiam ex recentibus obseruationibus restitutus: & noois insuper ac admirabilibus, hypothesibus ornatos. Habes etiam Tabulas expeditisimas ex quibus eosdem ad quodlius tempus quam facilli me calculare poteris. Lgitur eme, lege, fruere.

Norembergæ apud Joh. Petreium, Anno M D XLIII.

It is dedicated—

Ad Sanctisimum Dominum PAVLVM III. Pontificiem Maximvm.

And there is a laudatory letter NICOLAVS SCHONBERGIVS, Cardinalis Capuanus, Nicolaro Copernico, S. dated Rome, calend. Novembris, anno M D XXXVI.

It is a small folio of 196 pages, full of diagrams, and well printed at the expense of the Cardinal.

The first recorded observatory was on the top of the temple of Belus; the tomb of Osymandias, in Egypt, was another, and it contained a golden circle 200 feet in diameter: that at Benares was at least as ancient as these. The first in Europe was at Cassel in 1561; that of Tycho Brahe was the second in 1576, at Uraniburg. The next was at Greenwich in 1675, and contains a transept circle by Troughton; a transit instrument of eight feet, by Bird; two Mural quadrants of eight feet, and Bradley's zenith sector. The telescopes are 40 and 60 inch achromaticks, and a six feet reflector: there is also a famous camera obscura; and Flamstead had a deep well now filled up. The Paris observatory was built in 1667; that of Berlin in 1711; that of Nuremberg in 1678; that of Bologna in 1714; and that of Pisa in 1730; that of Utrecht in 1690; that of Copenhagen in 1656; that of Stockholm in 1746; and that of Lisbon in 1728. Latterly every university has had its observatory; and there are also several private ones scattered over Europe and the United States. The latitude and longitudes of some of the principal observatories are as under:—

Greenwich	51°	23′	39″	First Meridian			
Paris	48	50	14	2	20	15	E.
Gottingen	51	31	50	9	56	30	E.
Berlin	52	31	45	13	22	15	E.
Dublin	53	23	13	6	20	30	W.
Edinburgh	55	57	57	3	10	21	W.
Upsal	59	51	30	17	39	0	E.
Petersbur.	59	56	23	30	18	45	E.
Pekin	39	54	13	116	27	45	E.

The Antiquity of astronomy depends on the following data:—

1. The Hindoos assert the record of observations 3102 years before the Christian era, i. e. 754 years before Moses's deluge in 2348 B. C.; and these observations agree with the most accurate modern tables, including the corrections of refined theory.

2. The Chaldeans had made observations which extended 1903 years before the taking of Babylon by Alexander, i. e. 2233 B. C., or within 100 years of Moses's deluge.

3 The Egyptians claimed 48853 years of observations which, by mistake, may have been called years, by Diodorus, instead of moons, and if so, this gives a date of 3900 years B. C.

4. Then the Persians go back to the period when Aldebaren was on the equinox, now advanced two signs 7° 20′, which would have been in 3018 B. C.

5. The Chinese assert that Fohi in 2753 B. C. constructed astronomica tables, and that in 2697 Hoangti made an armillary sphere and they record a conjunction of the five planets which really happened in 2449.

6. The Zodiack of Tentyra places the equinox in the middle of Aquarius which indicates an advance of two signs 15° since its formation, and carries us back to 3600 B. C.

The science must also have been long progressing to a state in which it recorded these formal observations.

The earliest Hindoos practised trigonometry and sexagesimal arithmetick, and taught that the earth was spherical, turned on its axis, &c. They then took latitudes and longitudes, knew the diameter of the earth to be 1600 yojanus, and the moon's distance 51570, or 32 diameters.

In one yug they say the Sun, Mercury and Venus, or Surya, Budha, and Sucra make 4320000 revolutions.

The Hindoos call

The Sun.....Surya,
Mercury.....Budha,
Venus .....Sucra,
Mars .....Mangala,
Jupiter .....Vrihaspati,
Saturn .....Sani,
Moon .....Chandra.

It seems probable that Aristarchus readjusted the zodiacal signs, for the present advance of 29 degrees carries us back 2088 years, near the age of Aristarchus. The Balance and Virgo determine the equinox and harvest, and accord beyond all question.

Bailly maintains, from oriental records, that astronomy was cultivated in Egypt and Chaldea 2800 B. C. In Persia 3209. In India 3101, and in China 2952.

Job, Hesiod and Homer mention several of the constellations.

The Royal Library at Paris contains a Chinese chart of the heavens made about 600 B. C., in which 1460 stars are correctly inserted. Besides the Pekin Gazette, the government publish an annual calendar, in which the lucky and unlucky days are inserted, and what may be done, and what refrained on those days. In their astronomy they divide the zodiack into 12 signs and 28 constellations; and time into periods of 60 years, instead of our centuries, and into revolutions of 10,800 years, introduced by Taotse 1500 B. C., and evidently referring to the revolution of the line of Apsides, when the Perihelion and Aphelion interchange their positions. They were very ancient topographers; we refer map making to the 14th century; but there exists a map of China made 1000 B. C., which nearly accords with the actual surveys made by the Jesuits in 1700 A. C.

The Astrologers of Babylon are stated to have presented Alexander with astronomical observations during 430000 years. But this was likely to be an error of ignorant reporters who mistook a celestial period fixed by multiplication for an observation. Twenty revolutions of the line of Apsides make up this period, and perhaps they, with the Hindoos, might maintain there had been 20, as matter of tradition or conjecture; or it means moons or days.

The Egyptians alleged, that in 48853 years, (probably moons) the period from Vulcan to Alexander, they had accurately observed 373 eclipses of the sun, and 832 of the moon.

The Persian astronomers recorded their observations 3000 years before Christ, when Aldebaran and Antares were in the equinoxes, and Regulus and the Southern Fish in the solstices, or exactly N. S. E. and W. which agrees with the precession of the equinoxes.

The Phœnicians sailed by the stars in the Great and Little Bear.

In 2752 Fohi made astronomical tables, and in 2697, the fixity of the Polar Star led to the invention of the armillary sphere by Yuchi. In 2513 Chueni began his reign, and in his time the Chinese record the visible conjunction of five planets, which by calculation actually took place in 2449. All the fundamental elements of astronomical calculation appear to have been acquired by them long before the Christian era. In the 8th century B. C. they had a catalogue of 2500 stars. They divided the ecliptick into 365.25 parts, and made the obliquity 24°, which carries back the period 41 centuries, the secular diminution being 50″, or to 2200 B. C.

The Indian tables of great antiquity

make the tropical year within 1' 53" of our best tables. And other tables, equally accurate, appear to Bailly, Playfair, and other authorities, to have been constructed 3102 B. C. One of their zodiacks places Aldebaran 40' before the vernal equinox; which carries it back to 3163 B. C. Other coincidences are astonishing, and prove the length of their observations by the perfection of their instruments in the epoch of Adam. Thus the place of the sun agrees with our best tables within 46' 54", and the moon within 37' and our tables include various minute anomalies of recent discovery. The planets equally agree in minute particulars.

Democritus taught that the milky way was caused by innumerable stars. Nicetas and others taught the diurnal motion, while Pythagoras, who had been in India, taught the two-fold motions, and the modern system of the world. He ascribed eclipses to shadows, and arranged the planets as in the Copernican system. The later system of Ptolemy was his attempted improvement.

Pytheas, in 330 B. C., made the obliquity 23° 50', and recorded the connexion of the tides with the moon.

Eratosthenes, in 276 B. C., made the obliquity 23° 51' 20". He and Hipparchus in the same age, Ptolemy in 130, the Arabians in 800 and 900, and Ulugh Begh, in 1440, perfected the outlines of the science, and prepared the way for Copernicus, who, in 1543, on the day of his death, allowed his system to appear. It is the system of the Chaldeans, and nearly the same that was taught by Pythagoras, and will be believed by wise men to the end of the world.

Tycho, Kepler, Galileo, Hevelius, Descartes, Gassendi, Newton, Huygens, Flamstead, Hook and Halley distinguished the next century, and though Bacon opposed himself to Copernicus, and preferred the Ptolemaick system and astrology, yet it triumphed, and its adoption has rendered astronomy the most perfect of the sciences. The hypothesis of Newton, formed in 1666, that bodies fall to the earth by attraction sustained by three other hypotheses about a universal gravitation, a projectile force in the planets, and a vacuum in space gave systematick character to the science. But Kepler's approximate law that the squares of the times are as the cubes of the distances, and Fermat and Hooke's law, that the forces are as the squares of the distances, will long survive Newton's, and all hypotheses.

Copernicus describes attraction as an appetite or appetence, which the Creator impressed on all parts of matter! Kepler describes it as a corporeal and mutual affection tending to union; and Newton as an original power which restores lost motion!

The whole system, and the motion of every planet and satellite has been reduced by the Editor to rectangles of matter and velocity, and proved to be exactly mechanical to the third and fourth places of decimals.

The law of diverging *force* from a central is as the number of atoms affected, i. e. as $\frac{1}{d^3}$; and not as $\frac{1}{d^2}$ which is a mere superficial radiation of light, not of momentum.

The apparent mean diameter of the Sun is 32' 2", of the Moon 31' 26⅝". The Earth as seen from the Sun is 17⅛".

If the principle of terrestrial gravity prevailed at the sun, Dr. Young shows that a body would fall 450 feet in a second, and a man be two tons.

The horizontal parallex of the sun is between eight and nine seconds, and of the moon about 58 minutes.

The sun is in the exact centre of the solar system, but the planets vary their distances by moving between the tangent force and the chordal force, every where governed by the sun. As a planet is not in two places at once, an orbit and focii are imaginary. The extreme distance is to the least distance 1017 to 973, 1000 being the mean distance of the Earth. The orbit is in the exact form of an egg, and not an ellipse or section of a cone.

On the first of January the sun's diameter is 32' 35.6", and is then in its perihelion, and on the first July is

but 31′ 31″ and then is farthest off, or in its aphelion.

The earth's orbit velocity is 98163, or 98160 feet per second; and its rotation from 1525.41 to 1525 per second at the equator.

The Sun is equal to 20610000 Mercuries, to 1520000 Venuses, to 138 000 Earths, 9394000 Mars, 973 Jupiters, 1399.4 Saturns, and 1595.5 Herschels.

The least hourly motion of the sun is 2′ 23″, and the greatest 2′ 32.9″.

The sun's rotation is 7418 feet per second, or 4.86 times the velocity of the earth's equator.

Owing to the simultaneous motion of the earth, the real rotation of the Sun is 25*d.* 9*h.* 56*m.*

The sun's declination, or the declination of the fifteenth degree of the signs, is as under:

♈ ♍ ♑ ♓ ·····	5°	15′	2″
♉ ♌ ♏ ♒ ·····	16	21	26 6
♊ ♎ ♐ ♑ ·····	22	37	32.9

This distance of the Sun from the Earth, taking a degree at 69.148 miles, at the equator, is computed as under, by the theory of motion, i. e. orbit = rotation × 4 × by fall of bodies.

Log. of deg. in 365101 feet	5.562412
× 360	2.556303
	8.118715
131455000 feet or 7924 miles diameter	4.935320
÷ 86163″ in a day	3.183395
1525.4 feet per ″ × 4 for sphere	.602060
	3.785455
6101.6 central force × fall per ″ 16.08728	1.206493
	4991948
98163 feet, orbit per ″ × seconds in a year	7.497960
	12.489908
Feet in orbit ÷ 6.283 . . .	.79 180
	11.691728
Feet in distance ÷ 5280 .	3.722630
Log. distance in miles . .	7.969097

That is, the mean distance is 93131500 miles estimated by the ascertained fall of a body in a second.

But if the degree, as by former measurers, were taken at 68.75 miles, or 363000 feet, it would reduce the distance to 92572000 miles; and the rotation per second from 1525.4 to 1519.6; and orbit motion per second, to 97600.

It is commonly called 69½ miles, but 69 would be a more correct description for general purposes.

The distance estimated by the small parallactick angle varies greatly as the angle is taken. At 8.75″ it is 94 millions; at 8.6″, 95; and observers vary in so small an angle from .8″ to .9″, making a difference of 10 millions in the distance.

In 1779 Herschel measured a spot in the sun 50000 miles in diameter. These spots cross the sun from east to west, and perform a revolution in 27 days, 7 hours and 37 minutes, and show that the axis is inclined 3° 45′ to the eastward.

Spots in the sun have been seen to divide and separate in many parts. They consist of a dark nucleus and a lighter border, which last is often seen by itself. Wilson and Herschel think the spots are holes in the luminous solar atmosphere, or in its clouds, and that the nucleus is the body of the sun. They, however, make notches in the sun's limb. When they disappear, they are succeeded by faculæ or bright spots. They are classed as openings, shallows, ridges, nodules, corrugations, indentations and pores.

Many maps have been made of the moon and Ricciolus and Hevelius assigned names to the several parts with latitude and longitude taken from lines drawn through the centre. One annual ridge, with a small central rock just S. W. of the centre, is called by one Hipparchus, and by the other, Olympus. A large spot, just S. E. of the centre, is called Ptolemus by one, and Mount Sipylus by the other. 10° 43′ E. and 43° S. is the deep brilliant cavity called Tycho, or Mount Sinai, the centre of all the radiations in the south hemisphere.

The height of the mountains in the moon is considerable; ten are 5

miles, or nearly; and eight are from 3 to 4 miles. Three of the hollows are from 3 to 4 miles; ten are from 2 to 3 miles, and as many are nearly 2 miles.

The dark parts are not supposed to be water, while the high parts are ridges of mountains or high lands. The brilliant spots are hollows surrounded with high ridges with a hill in their centre. This rough surface is considered as volcanick; and several observers, especially Herschel, have observed red spots like volcanoes. Of course combustion bespeaks an atmosphere, and observations on the horns prove that there is one the third of a mile high, creating a twilight, and a rarer one nearly a mile higher.

Some moderns estimate the atmosphere to be 1638 miles high.

The mass of the moon is to that of the earth, per La Place, &c. as 1 to 69.79, per the tides, on theory. But in bulks the ratios are 1 to 47.81.

The moon's motions are accelerated 11 seconds in a century; and in remote centuries as 11 × by the square of the number. Hence an eclipse 2000 years ago requires 20 × 20 × 11 seconds of time to be allowed, or 1¼ hour nearly.

The Chaldean period of 223 lunations, or 18 years, 11 days, 7 hours, 42 minutes, brought the moon within 28′ 10″ of the same position again as to nodes and longitudes; but 6890, or 557 years, 17¾ days, bring her within 1′ 41″, and then all her phenomena, eclipses, &c. &c. occur for the same period as before.

The moon's nodes or equinoxes go round the ecliptick in 6793 days, or in the Chaldean period.

The moon is 24 minutes longer in performing her orbit when the earth is in its perihelion than its aphelion.

It was a fatal error of Newton's in asserting that the moon falls but 16 feet in a *minute*. As matter of undeniable FACT it falls 128820 ft. in every minute, and has fallen 128820 feet in every *minute*, without exception or abatement, ever since it was a moon.

The moon's mean motion in her orbit is 3372 feet per second, and to produce this motion, the two forces at right angles must be 2146.9 feet, and this is her mean fall towards the earth in every second. In a *minute* it is 2146.9 × 60 = 128820 feet as the actual fall, and this agrees with the radius divided by the number of minutes in the fourth of a lunation. Now a body at the earth falls but 16.0875 feet in a second, and by acceleration for a minute but 58000 ft; there is therefore no likeness whatever in the effects as has been imagined and often stated. Those who make the moon fall but 16 feet in a minute instead of 128820 feet, do it by making a *paper* orbit for the moon, and then they compare the paper orbit of their own invention with the real motion of the earth, instead of comparing one actual fact with another actual fact.

The moon increases in velocity 11″ in 100 years.

The exact interval of the moon's conjunctions with the sun is 29.5-305887 days.

The moon's diameter in apogee is 29′ 55.84″, and in perigee 33′ 56.″ Her equatorial parallax varies also from 53′ to 62′.

The moon's distance is computed as follows by parallax. This has been taken between 61′ 32″ and 54′ 4″; and La Place makes it 56′ 34.2″.

As sine 56′ 34.2″	8.21448
To radius	10
So is earth's semi-diameter	3.59748
	13.59748
	− 8.21448
241547 miles = ...	5.38300

Her size is determined by the angle which she presents, which is 31′ 26.5″.

As radius	10
To sine 31′ 26.5″	7.96118
So is log. distance	5.38300
	13.34418
	10
2209 miles = ...	3.34419

When the new moon is within 18 degrees of the node, there is an eclipse of the sun; and when the full moon is within 12 degrees of the node, she will pass in the earth's shadow and be eclipsed

The harvest moon arises from the varied inclination of the Zodiack in rising and setting, and this makes a difference in the moon's rising of an hour, as 1 h. 17 minutes, or 17 minutes. In 1839 and 1857 there will be striking harvest moons.

The axis of the moon is inclined to the plane of her orbit 88° 17'.

The cube root of the square of a planet's period multiplied by 1.83, is its distance in millions of miles universally, $P^{\frac{2}{3}} \times 1.83 = D$.

If all the known planets were assembled in one, it would be the 557th of the sun; and with equal force would be 590 millions of miles distant.

Lagrange demonstrated that the inequalities of the planetary motions are periodical. The lines of apsides and the periods being constant.

The period of a planet which moves but 500 feet in a second, would be 10 millions of years, and its distance 2400000 millions of miles, or $\frac{1}{14}$ the distance of the nearest fixed stars.

The Newtonian theory assumes that the matter of the planets vary in density, thus—Water being 1; the Sun is $1\frac{2}{3}$; Mercury, $9\frac{1}{6}$; Venus $5\frac{11}{15}$; the Earth, $4\frac{1}{2}$; Mars, $3\frac{2}{3}$; Jupiter, $\frac{1}{14}$, or equal to water; Saturn, $\frac{13}{32}$ rather heavier than cork; and Herschel, $\frac{8}{11}$, equal to water. Others reasonably allege, that all planetary matter must be of average density, and the new mechanical theory finds an exact accordance on the principle of equal density.

Herschel could see no spots on Mercury; but Schroeter alleges that he did, and saw mountains 10 miles high. He considers the rotation as $24\frac{1}{2}$ days.

Spots have been seen on Venus; but Herschel saw none, only a dense and enlightened atmosphere. Schroeter saw a mountain 22 miles high, another 19, and two others 11. He makes the rotation 23h. 20' 54". Many have believed that they have seen a satellite, distant $66\frac{1}{2}$ semi-diameters.

The enlargement of the light part of the moon and the enlargement in the horizon, are optical illusions—one owing to bright objects enlarging pencils of light, and the other owing to the mind placing the moon at a greater distance, while the angle is the same.

When Venus is brightest, and at the same time at its greatest north latitude, it can then be seen by the naked eye at any time of the day. This happens once in about 8 years.

Vince.

Mars and Mercury are the most eccentrick of the planets; that of Mars being 1-tenth, and that of Mercury 1-fifth nearly, Juno and Pallas are 1-fourth.

Mercury never moves above 28° from the Sun, and therefore never rises or sets above 1 h. 50 min. before or after the Sun, and is seldom seen.

There will be transits of Mercury,

May 4, 1832
Nov. 7, 1835
May 8, 1845
Nov. 9, 1848
Nov. 11, 1861
Nov. 4, 1868

Venus never goes above 48° from the sun, and is brightest at 39°. Both have phases like the moon.

There will be no transit of Venus till Dec. 8, 1874; but another Dec 6, 1882. No other till 2004.

The redness of Mars is ascribed to his dense atmosphere, and it appears to be higher than his own diameter.

There are bright spots at the north and south poles of Venus, which Herschel ascribes to Ice; and the appearances in the centre are odd and inconceivable.

The polar axis of Jupiter is $\frac{1}{14}$th shorter than the equatorial diameter, and in Saturn is $\frac{1}{11}$th, owing doubtless to their rapid rotation round their axes.

The first of Jupiter's satellites is twice as large as the second, and the third and fourth, 5 or 6 times larger than the first. The third is the largest.

As Jupiter's moons move by the action of Jupiter on the medium of space with forces inversely as the cubes of their distance, and reactions as their quantities, there is an amusing harmony in the arithmetick

of their motions, which La Place has developed in a series of propositions; and it thence appears that all cannot be on one side of the planet at the same time. Their actual sizes are undetermined, but as the circumference is equal to the falling back of the nodes, the sizes may easily be determined.

Saturn's ring is double, and the nearest is three times as broad as the other, one being 20000 miles broad and the other 7200, while the space between them is 2839 miles.

The exterior ring is 205000 miles in diameter. The inner ring is 33000 miles from the body of Saturn. It is said to rotate in 11h. 16m., and the outer part in 17h. 10m., but Schroeter doubts it. La Place is very hypothetical on this and other subjects, and therefore few of his calculations are to be relied on. The accuracy of mathematical results depends on the *rigorous* accuracy of the hypothesis applied, and La Place is generally absurd, and very superstitious. Saturn swells towards the Poles, and the longest diameter is at 43° 20', and to the equatorial as 36° to 35°, while the polar is 32°. This seems owing to the central action of the rings, for this vast planet turns in 10h. 16m., and the rings seem like the middle parts thrown off by a centrifugal force.

Five of Saturn's satellites were discovered in the 17th century, and the sixth and seventh by Herschel in 1789.

Ceres ought to be taken in the measures of Schroeter, for Herschel seemed disposed to underrate the new discoveries of other astronomers. Its diameter is 1624 miles. It was discovered by Piazzi in 1801.

Pallas was discovered by Olbers in 1802, and is 2099 miles. Juno by Harding, and is 1425 miles. Vesta by Olbers in 1807. It has been supposed that these planets are fragments of a large planet which some how exploded.

The planet Herschel was discovered with a five foot achromatick telescope, on the 13th March, 1781, and though its distance is 1800 millions of miles, yet, if the distance of the nearest fixed star is 36000000 millions, and the mid-distance 18000000 millions, there is 10000 thousand times the distance of Herschel for 10000 planets equally distant, from Herschel to the Sun.

The Satellites revolve as under:

	♃	♄	♅
	d. h. m.	*d. h. m.*	*d. h. m.*
First . .	1 18 28	0 22 37	5 21 25
Second	3 13 14	1 8 53	8 17 1
Third . .	7 3 43	1 21 18	10 23 4
Fourth	16 16 32	2 17 45	13 11 5
Fifth . .	.....	4 12 25	38 1 49
Sixth . .	.....	15 22 41	107 16 40
Seventh	.....	79 7 54	

The satellites of Herschel revolve perpendicular to our ecliptick, and of course neither direct nor retrograde.

No fact yet verifies the Chaldean theory that the comets have regular orbits; one or two have been surmised as identical, but it is doubtful; one is said to have a period of 76 years, and therefore ought to appear in 1834, but there are few years without them; 5½ years is ascribed to another, 6.7 to a third—but mere guess.

100 comets have entered the solar system with declination from 80° to 96°, 88 from 70 to 80; 79 from 60 to 70; 63 from 50 to 60; 84 from 40 to 50, and only 90 below 40°. Only 24 have passed between Mercury and the sun, 47 within Venus, and 58 between Venus and the earth's orbit, and 73 between the Earth and Mars. The rest between Mars and Jupiter's orbits. Their orbits seem to be deflected or bent when they arrive at the *plane* of the zodiack. Astronomers are beginning to suspect from their motions, that there is a resisting medium in space; a fact not to be doubted.

Comets are chiefly remarkable for a luminous projection in a line directly opposite to the sun, which therefore follows them as they approach the sun, and goes before them as they leave the sun, and is a head or tail as their positions vary; by the vulgar this luminous projection is always called a tail. Comets have very large atmospheres, and Herschel thinks some of them are all atmosphere; of course then the sun's

rays pass through the spherical atmosphere, just like light through a glass globe, and the projection increases in length as it approaches the luminous sun. This simple cause and effect did not however accord with one of Newton's hypotheses—that which asserted a vacuum in space, and therefore various irrelevant theories have been imagined. When a comet has a distinct nucleus the projection is divided in the middle by a sensible line, as that of 1811; these projections are some millions of miles long, and some even 80 or 150 millions.

The comet of 1811 was 10900 miles in diameter, i. e. twice the bulk of the earth, and its luminous projection was 132 millions of miles.

Schroeter.

But Lambert calculated that the comet of 1811 was 17 times larger than Jupiter, or 25100 times larger than the earth.

The comet of 1680, the largest in modern times, had its orbit inclined 61° 22′ 55″, and passed within half a million of miles of the sun's surface with a direct motion.

The comet of 1770 passed within two millions of miles of the earth.

The nebulæ or cluster of stars, called the milky way by the ancients, appears as a permanent luminous cloud; and as our sun and system are in the midst of it, the circle goes round the heavens. The larger visible stars, unless other remote nebulæ, are all part of the cluster. It is most luminous or thickest in the constellation of the Ship near the Great Dog. In Ophiuchus it divides, but reunites. It is supposed to contain millions of stars, and perhaps each 30 or 40 millions of millions of miles asunder. In such an arrangement only 17 would be nearest and largest, and it is so, for there are so many of the first magnitude.

Hipparchus, in 128 B. C., made a catalogue of 1022 stars, all that can be seen with the naked eye. Flamstead, with telescopes, made another of 2884. Bode, in 1800, of 27000; and Lalande, same year, of 50000. Herschel computed 50000 in nearly six degrees of the milky way.

If at the stars the earth's orbit is 1″. the distance is 40 billions of miles. Observations prove that it is not 2, and the distance is taken at 36 billions. Herschel considered the milky way to be a nebulæ or cluster of stars, in nearly the middle of which is our sun, all the separate visible stars being part of it. He counted 2500 similar nebulæ or clusters in the heavens.

Space seems to be occupied with clusters of stars, serving as separate suns to planets and systems. The clusters are of all forms. That of the milky way is like a tuning fork, and all the visible single stars belong to it, besides the myriads of the milky way.

The distance of the remotest fixed stars supposed to be the nebulous clusters, may be best conceived by Herschel's idea that the light has been 48000 years progressing to us at its velocity of a million of miles in five seconds.

There are 34 northern constellations, 28 of which are ancient; and 45 southern, 14 of which were ancient. The British catalogue contains 17 stars of the first magnitude, 79 of the second, 223 of the third, and 510 of the fourth magnitude, being those commonly discerned by the naked eye. It gives 695 of the fifth magnitude, and 1604 of the sixth magnitude; in all 3128. The stars of the first magnitude are—

Aldebaran	in Taurus.
Castor	in Gemini.
Regulus	in the Lion.
Spica	in Virgo.
Antares	in Scorpio.
Dubhee	in the Great Bear.
Capella	in Auriga.
Arcturus	in Bootes.
Vega	in Lyra.
Deneb	in Cygnus.
Achernar	in Eridanus.
Betelgeuse	in Orion.
Canopus	in Argo.
Syrius	in the Great Dog.
Procyon	in the Little Dog.
Cor Hydræ	in Hydra.
Fomelhaut	in the Sou'n Fish.

The twelve signs of the zodiack, and the number of stars recorded in them in the tables, are as under—

♈ Aries	67
♉ Taurus	143
♊ Gemini	87
♋ Cancer	87

♌	Leo	101
♍	Virgo	117
♎	Libra	53
♏	Scorpio	37
♐	Sagittarius	73
♑	Capricornus	54
♒	Aquarius	119
♓	Pisces	115

The Greeks and Arabians borrowed the Zodiack from the Hindoos, to whom, according to Sir W. Jones, it has been known from time immemorial.

There are 28 stars which change their colours.

Algol varies its brightness from a second to fourth magnitude every 2d. 20h. 49'.

Arcturus has a southern motion of 3' 53" in a century.

If the latitude is deducted from 90°, the difference is the circle of stars at each opposite pole, which never rise or set in that latitude.

The Arabian astronomers under the Caliphs in 995, had a quadrant of 21 feet 8 inches radius. and a sextant 57 feet 9 inches radius.

Kepler promulgated three laws of planetary motion: 1. That the squares of the times are as the cubes of the distances. 2. That a planet moves through equal areas in equal times; and, 3. That the planets describe elliptical orbits with the sun in one of the foci.

Rising, Southing, and Setting of the PLEIADES, for every 5th Day in the Year, to determine the Hour of the Night, in the Latitude of England.

Months.	Days.	Rise.		South.		Sets.	
		h.	m.	h.	m.	h.	m.
January.	1	0A	28	8A	45	5M	2
	6	0	06	8	23	4	40
	12	11M	39	7	56	4	13
	17	11	17	7	34	3	51
	22	10	56	7	13	3	30
	27	10	35	6	52	3	9
February.	1	10	15	6	32	2	49
	6	9	55	6	12	2	29
	12	9	31	5	48	2	5
	17	9	12	5	29	1	46
	22	8	52	5	9	1	26
	27	8	34	4	51	1	8
March.	4	8	15	4	32	12A	49
	9	7	56	4	15	12	30
	12	7	45	4	2	12	19
	17	7	27	3	54	12	1
	22	7	7	3	24	11	41
	27	6	49	3	6	11	23
April.	1	6	31	2	48	11	5
	6	6	13	2	30	10	47
	12	5	51	2	8	10	26
	17	5	33	1	50	10	7
	22	5	14	1	31	9	48
	27	4	55	1	12	9	29
May.	2	4	37	0	54	9	11
	7	4	17	0	34	8	51
	12	3	58	0	15	8	32
	17	3	38	11M	55	8	12
	22	3	18	11	35	7	52
	27	2	58	11	15	7	32
June.	1	2	38	10	55	7	12
	6	2	18	10	35	6	52
	12	1	54	10	11	6	28
	17	1	32	9	49	6	6
	22	1	12	9	29	5	46
	27	0	51	9	8	5	26

Months.	Days.	Rise.		South.		Sets.	
		h.	m.	h.	m.	h.	m.
July.	2	0M	30	8M	47	5A	4
	7	0	10	8	27	4	44
	12	11A	49	8	6	4	23
	17	11	29	7	46	4	3
	22	11	9	7	26	3	43
	27	10	49	7	6	3	23
August.	1	10	30	6	47	3	4
	6	10	10	6	27	2	44
	12	9	48	6	5	2	21
	17	9	29	5	46	2	2
	22	9	10	5	27	1	44
	27	8	52	5	9	1	26
September.	1	8	34	4	51	1	8
	6	8	16	4	33	0	50
	12	7	54	4	11	0	28
	17	7	36	3	53	0	10
	22	7	18	3	39	11M	52
	27	6	58	3	16	11	33
October.	2	6	40	2	57	11	14
	7	6	22	2	39	10	56
	12	6	4	2	21	10	31
	17	5	44	2	2	10	19
	22	5	26	1	43	10	0
	27	5	7	1	24	9	48
November.	1	4	48	1	5	9	22
	6	4	28	0	45	9	2
	12	4	4	0	21	8	58
	17	3	43	0A	0	8	17
	22	3	23	11	40	7	57
	27	3	1	11	18	7	35
December.	2	2	40	10	57	7	14
	7	2	18	10	39	6	52
	12	1	56	10	13	6	30
	17	1	34	9	51	6	8
	22	1	12	9	24	5	46
	27	0	50	9	7	5	22

One tide lengthens the earth's radius on one side, and then the equal force of rotation demands that the opposite radius be lengthened also, and hence opposed tides.

The square root of the earth's orbit motion, $\sqrt{98163} = 323$ is a mean proportional between the rotation and the fall of a body. The moon's orbit motion is a mean proportional of the earth's bulk by the earth's orbit motion. The orbits of the planets are a mean proportional of the sun's bulk by the sun's progressive velocity.

A body after falling 189 seconds, acquires a velocity of 6100 feet per second, equal to the whole centripetal force of the earth's surface.

The chord of the arc of a quadrant is the square root of two or 1.41415, hence every radius by 1.41415 is the chord; or by 1.5708 is the arc of the quadrant.

The earth's diameter is repeated about 74000 times in the orbit, which is of an egg-form.

Increase and Decrease of Days for every Fourth Day in Latitude of 52°

Days.	January.		February.		March.		April.		May.		June.	
	Increase.		*Increase.*		*Increase.*		*Increase.*		*Increase.*		*Increase.*	
	h.	*m.*	*h.*	*m.*	*h.*	*m.*	*h.*	*m.*	*h.*	*m.*	*h.*	*m.*
1	0	8	1	26	3	12	5	14	7	6	8	32
5	0	14	1	38	3	26	5	30	7	20	8	38
9	0	20	1	54	3	42	5	44	7	34	8	44
13	0	28	2	8	3	58	6	0	7	46	8	48
17	0	38	2	24	4	14	6	16	7	56	8	50
21	0	50	2	40	4	30	6	30	8	8	8	52
25	1	2	2	54	4	46	6	44	8	18		
29	1	16	.....		5	2	6	58	8	26		
31	.....		.....		5	10	.....		8	30		

Days.	July.		August.		September		October.		November		December	
	Decrease.		*Decrease.*		*Decrease.*		*Decrease.*		*Decrease.*		*Decrease.*	
	h.	*m.*	*h.*	*m.*	*h.*	*m.*	*h.*	*m.*	*h.*	*m.*	*h.*	*m.*
1	0	6	1	14	3	2	5	0	6	58	8	30
5	0	10	1	26	3	18	5	16	7	12	8	36
9	0	16	1	38	3	34	5	30	7	26	8	44
13	0	24	1	52	3	48	5	46	7	40	8	48
17	0	32	2	6	4	4	6	2	7	52	8	50
21	0	42	2	22	4	20	6	18	8	4	8	52
25	0	52	2	36	4	36	6	34	8	16	Incr. 2	
29	1	4	2	50	4	52	6	48	8	26		

As every body which goes round in an orbit turns from that cause once on its axis, so the earth turns an extra time before it returns to the same star, and exactly by this quantity at the equator, the stars go back by a motion of 22700 miles, called the precession with reference to the seasons, in 25868 years. The moon's nodes fall back also by a quantity exactly equal to its circumference 6730 miles in 19 years. The line of Apsides advances 50617 per annum, or 360 deg. in 20931 years, owing to the earth passing quicker from the perihelion to the aphelion than the contrary.

The solstitial points are the first degrees of Cancer and Capricorn; and the equinoxial points are the first degrees of Aries and Libra.

At 5 feet high the dip of the horizon is 2′ 8″; at 10 feet 3′ 1″; at 20 feet 4′ 16″; at 30 feet 5′ 14″; at 50 feet 6′ 44″; and at 100 feet 9′ 33″.

Right-Ascensions in Time, and Declinations and Magnitudes of Forty remarkable Fixed Stars, with their Names.

Names of the Stars.	Rt. Asc.	Declination.	Mag.
	h. m. s.	° ′ ″	
Polestar, Alruccabah	0 52 20	88 14 25 n	2
Andro gird. Mirach	0 58 34	34 33 29 n	2
Andro. foot, Almach	1 51 41	41 21 50 n	2
Ram's follow-horn	1 55 55	22 30 47 n	2
Whale's ja. Menkar	2 51 50	3 18 8 n	2
Medusa's hea. Algol	2 55 12	40 10 29 n	2
Perseus' si. Algenib	3 10 7	49 8 15 n	2
Brightest of the 7st.	3 35 37	23 28 36 n	3
Bull's eye, Aldebar	4 24 27	16 5 43 n	1
Auriga's sh. Capella	5 1 56	45 46 40 n	1
Orion's L foot, Rigel	5 4 56	8 26 24 s	1
Bull's north horn	5 13 40	28 25 37 n	2
Orion's l. sh. Bellat.	9 14 54	6 9 21 n	2
Orion's girdle	5 26 4	1 20 27 s	2
Orion's r. sh. Betelg.	5 44 21	7 21 41 n	1
Great Dog, Sirius	6 36 20	16 27 2 s	1
1st Twin, Castor	7 21 49	32 18 59 n	1
Little Dog, Procyon	7 28 49	5 43 45 n	1
2d Twin, Pollux	7 33 3	28 29 59 n	2
Hydra's heart, alp.	9 17 45	7 46 46 s	2
Lyon's heart, Regu.	9 57 42	12 56 29 n	1
Great Bear, L. Pointer	10 49 40	57 27 3 n	2
Great Bear, U. Pointer	10 51 16	62 49 45 n	2
Lion's tail, Deneb	11 38 50	15 41 36 n	2
Great Bear's tail, Aliath	12 45 13	57 2 57 n	2
Virgius' spike	13 14 40	10 6 37 s	1
Dragon's tail	13 58 59	65 20 8 n	2
Bootes, Arcturus	14 6 32	20 13 43 n	1
Libra, South. Scale	14 39 39	15 11 54 s	2
Libra, North. Scale	15 6 16	8 38 3 s	2
North Crown	15 25 58	27 23 58 n	2
Scor. heart, Antares	16 17 10	25 58 21 s	1
Her head, R. Alget.	17 5 32	14 37 48 n	2
Head of Serpentarius	17 25 39	12 43 9 n	2
Drag. head, Rastaben	17 51 58	51 31 5 n	2
The Harp, Lyra	18 30 10	38 36 26 n	1
The Eagle, Atair	19 41 1	8 21 11 n	2
S. Fish, Fomalhaut	22 46 34	30 40 31 s	1
Pegasus' w. Markab	22 54 48	14 7 56 n	2
Andromeda's head	23 58 4	27 59 34 n	2

As large masses of matter are probably alike, so the density of the planets would be equal.

The perihelion point moves through a sign in $\frac{20940}{12}$=1745 years, hence it is 5235 years in passing from the equator to the tropicks, and vice versa. It is now in 9 deg. of Capricorn, and was in that southern tropick 500 years since; thence it last passed the equator 5735 years since, and will return to it in 4235 years.

The rotation of the earth and any planet is caused by the very same force, acting on its superiour hemisphere, as carries it from the chord or diagonal into the curved orbit. This angle is 5° 41′, and the sine 993 for radius 10000, i. e. 1 to 10.06, which reduced by the sine of the obliquity, or 1 to 5, gives 8.04 for that hemisphere, and 16.08 for both. Then

$\frac{98163}{16.08}$ = 6100 the actual force per second.

The earth's rotation would not equal its orbit motion till 64000 miles from the centre, hence the air may have weight to that distance.

The length of the day in latitude 49, 51, 53, and 55 for the above declinations is as under:

	hrs. '	h. '	h. '
Lat. 49	12.54	14.45	15.53
51	12.56	14.58	16. 6
53	13. 3	15.10	16.40
54	13. 8	15.27	17. 4

The earth's axis is inclined 23 deg. 27' 56", and decreases 52" in a century.

In eclipses the word digit means one-twelfth part of the diameter of the sun and moon.

The obliquity of the ecliptick varies above half a second per annum, or from 50 to 60 seconds in a century. Hipparchus fixed it at 23° 51' 20", and it is now 23° 27' 30", making a difference of 23' 50" in nearly 2000 years. The cause is the unequal distribution of land and water on the globe, and as the inequality diminishes by the washing of rains, so the parallelism of the diurnal and annual motions continually approaches.

The experiments at Shehallien, &c. which determined the mean density of the earth 4½ times that of water, are founded on the assumption that inert bodies attract one another, but as a body inclines to a mountain, on the very same principle that corks float towards bungs, their intercepted atmospherick pressure, the data are inferred to be fallacious.

The zodiacal light is ascribed to the solar atmosphere, and to its condensation in the plane of the zodiack.

The angle of 23° 27' made by the ecliptick with the equator determines all the zones and circles on the Globe. Thus, the tropicks are 23° 27' on each side the equator; and the polar arctick and antartick circles are 23° 27' from the north and south poles. The middle regions 90 —46 54, or 43° 6' are the temperate zones.

The casting of a nativity among astrologers means the drawing out a picture of the heavens at the minute of birth, in which the signs are disposed in 12 equal spaces, called houses, and the planets, &c. put into the signs. On this judgement is given, but as there is no possible or probable connexion between these signs and the subject, so a pack of cards, or any other combination, would answer the same purpose.

As the motion of a falling body will not exceed the force which produces the fall, or 6100 feet per second, so in 189" the velocity would become uniform at 6100 feet per second. The velocity arising from continuous force is as the square of the times of falling; the first second 16.08 feet nearly, or 16.085 in latitude 51.32, so that in 4 seconds the velocity is 4×4×16.085—and so on.

The fall of a body is as the ratio of the velocity in the orbit per second, 98163 feet, to the velocity of the rotatory surface of the earth, which surface is 4 times the area of the equatorial circle, which moves 1525.6 feet per second.

Then $\frac{98163}{1525.6 \times 4}$ = 16.085 feet, the mean fall per second all over the earth.

The nonagesimal degree is the 90th of the ecliptick from the horizon.

The solar tide, explained by Galileo, is to that of the moon only as about 1 to 5.

The time of high-water being known at London, it may be known at the following places by *adding*,

	h.	m
For Tinmouth Haven, Hartlepool, and Amsterdam	0	30
Breat	1	0
Scilly	1	45
Mount's Bay	1	55
Bridlington Pier and Humber	2	0
Fowey, Loo, and Plymouth	3	10
Dartmouth, Scarborough, and Hull	3	30
Torbay and Tinmouth	3	40
Exmouth, Topsham, and Lime	3	50
Bristol and Weymouth	4	20
Bridgewater and Texel	4	40
Portland and Hartfleur	5	50

By *substracting*,

For Leigh, Maes, and Gouries Gut	0	5

Gravesend, Rochester, and Rammekins	1	20
Buoy of Nore and Flushing	1	30
Portsmouth, Ostend, Shoe-Beacon, and Red-Sand	2	0
Harwich, Dover, Spithead, and Calais	3	0
Gunfleet, Hastings, Shoreham, Orfordness, and Dieppe	4	0
Yarmouth Pier & Needle	4	40
St. Helen's and Havre-de-Grace	5	30

The diameters of the bodies in the solar system are, the Sun, 883246 miles; Mercury, 3224; Venus, 7687; the Earth, 7916; Moon, 2209; Mars, 4189; Ceres and Pallas uncertain; Juno, 1425; Vesta, 238; Jupiter, 89170; Saturn, 79042; Herschel, 35112.

Their distance by Kepler's law, $D^3 : d^3 :: P^2 : p^2$ are Mercury, 37; Venus, 68; Earth, 95; Mars, 144; Ceres, 263; Pallas, 266; Juno, 252; Vesta, 225; Jupiter, 490; Saturn, 900; Herschel, 1800 millions.

The distances by the Editor's new law, $D : d :: \sqrt[3]{t} : \sqrt[3]{t}$, founded on the law of force, $D\frac{1}{2}$; or, $1.83 \times \sqrt[3]{t} = d$. Mercury, 36.2; Venus, 67.7; Earth, 93.5; Mars, 143; Jupiter, 480; Saturn, 890; and Herschel, 1800 millions.

The inclinations of their orbits to the plane of the ecliptick is:

	°	′	″
Mercury	7	0	0
Venus	3	23	35
Moon	5	9	3
Mars	1	51	0
Ceres	10	37	0
Pallas	34	50	40
Juno uncertain.			
Vesta	7	8	46
Jupiter	1	18	56
Saturn	2	29	50
Herschel	0	46	20
Inclination of Sun's axis,	82	44	0
Moon's	88	17	0
Mars'	59	22	0

Periods:	years.	days.	h.	m.	s.
Mercury	0	87	23	15	43
Venus	0	224	16	49	10
Earth	0	365	6	9	12
Mars	1	321	23	15	44
Vesta	3	240	4	55	1
Juno	4	130	23	57	7
Ceres	4	221	13	56	9
Pallas	4	221	17	0	5
Jupiter	11	315	14	27	11
Saturn	29	174	1	51	11
Herschel	83	150	18	0	0

Rotation on axis:	days.	h.	m.	s.
Sun	25	14	8	0
Mercury	0	24	5	0
Venus	0	23	29	59
Earth	0	23	56	4
Mars	0	24	39	22
Jupiter	0	9	56	0
Saturn	0	10	16	2

Eccentricity, half the major axis being 1: Mercury, .2055; Venus, .00695; Earth, .01685; Mars, .09313; Vesta, .093322; Juno, .2549; Ceres, .07835; Pallas, .24538; Jupiter, .048178; Saturn, .056108; Herschel .04667.

The line of Apsides, or the aphelion and perihelion, advances 61.45″ per annum, chiefly owing to the earth moving quicker from the perihelion to the aphelion than the contrary.

Twilight lasts till the sun is 18 degrees below the horizon, when the solar rays are reflected from a height of 44 miles. The horizontal refraction is 30′ 51″ nearly the diameter of the sun, so that the sun has set when his body touches the horizon to the eye.

Great equation of centre:

	°	′	″
Mercury	28	40	0
Venus	47	20	0
Earth	1	55	30.9
Mars	10	40	40
Pallas	28	25	0
Jupiter	5	30	38
Saturn	6	26	42
Herschel	5	27	16

The apparent diameter at the Earth of Pallas, is half a second; of Juno, 3″; and of Vesta half a second; Ceres varies from 1″ to 6″; Herschel is 3½″; Mercury, 10″; Saturn, 18″; Mars, 27″; Jupiter, 39″; and Venus, 58″.

The line of Apsides in 100 years moves.

	°	′	″
In Mercury	1	33	45
In Venus	1	21	0
Earth	1	43	10.8
Mars	1	51	40
Jupiter	1	34	33
Saturn	1	50	7
Herschel	1	29	2

The perihelion of the Earth at 1° 43′ 10″8. in a century, or 61.8″ per annum, makes a revolution in 20931 years; and the equinoxes recede 50.1″ per annum, or 1° 23′ 30″ in a century, and make a revolution in 25868 years. Hence, on January 1, 1830, the perihelion was 9° 11′ 6″ of Capricorn;—i. e. on the 30th of December the sun is 3 millions of miles nearer than on the 30th of June.

The earth's perihelion distance, the mean being 1, is 9831468; and it is in this point when the sun is in 9° 11′ 6″ of Capricorn—i. e. on December the 30th 1830. Adding 61.6-8″ per annum from January 1, 1830. It is given thus particularly, because its varying declination is believed to be the causes of the progression of the seas from one hemisphere to another. It crossed the solstice of ♈ in 1295, and the equator 3938, B. C., causing the flood of Moses; and it will cross it again in the year 6528, or in about 4700 years.

ATMOSPHERICAL AND ÆRIAL PHENOMENA.

The size of the volume of the gaseous atmosphere, which accompanies the earth in its orbit, and rotates with it, is an unsolved problem. The twilight proves that it contains vapours dense enough to reflect light as high as 44 or 45 miles. The rarefaction by solar heat, and the rotation, are supposed to render it an oblate spheroid. But as it would have central force till the two motions were equal; so, as at the surface of the earth, at 3958 miles from the centre, it revolves with a total momentum of only 6101, while the orbit motion is 980; then $\frac{98000}{6101} \times 3958$ = the height which it may rotate, or nearly 64000 miles from the centre, if the peculiarities of elasticity, &c. do not alter this result.

Its height, as a uniform gas, of the same density as at the earth's surface, proved by its pressure of 2158 lbs. to the square foot, would be but 5.6 miles; for a cubick foot weighs but 1¼ oz. which gives 29500 feet in 2158 lbs. But the earth's reaction, and its compression into a narrowing space, and its own elasticity, afford a dilatation as it ascends, in the geometrical ratio of the altitude. Of course, however, this must have *a limit*, and tables which run up the expanding series are fanciful. These show, if we believed them, that a cubick inch of air, at 500 miles high, would fill a sphere 1800 millions of miles in diameter; that at 7 miles it is equal to 4 inches; at 14 miles, 16 inches; at 28 miles, 256; at 42 miles, 4096; and at 49 miles, 16384. But probably, no gas is rarer, or much rarer, than hydrogen, or about thirteen times the rarity of common air.

Altitudes are determined by the law, that the densities (within known limits) decrease in geometrical progression as the altitudes increase in arithmetical progression, the two forming a series of atmospherick logarithms.

[The superficial extent of the atmosphere at its lower surface, is equal to about 200,000,000 of square miles. We have before seen that its altitude, if reckoned at the uniform density of its lower surface, or in other words, according to its actual quantity, is equal to five miles and six-tenths only. Considered, therefore, as a fluid stratum resting upon the earth, the horizontal or superficial extent of the atmosphere is to its altitude or vertical dimensions as 35,714,285 to 1; a fact that well deserves consideration in any physical estimate of its winds and currents.]* See page 178-9; see also *Air*, in Chymistry.

Elevation above the level of the sea, or the general level of a country, makes a regular variation in temperature; the first 300 feet makes a difference of a degree, almost as truly as though the height were measured This arises from the diminution of reflected heat from surrounding objects. After ascending 300 feet, the thermometer falls a degree at 295 feet, then at 277, 252, 223, and 192 feet; so that at 1539 feet of elevation, the thermometer will fall six degrees in a general way, but 300 feet per degree is the common rule. On these principles, the limit of perpetual congelation has been theoretically calculated: it is made 15000 feet at the equator; and from that to 13000 be

* The matter included in brackets supplied by the American Editor.

tween the tropicks; and from 9 to 4000 between lat. 40 and 59 deg.

[It has been found, however, that the above rule is subject to great variations, owing probably to the physical character and temperature of the atmospherick currents which prevail in different regions and at different altitudes. Warmer strata or currents are often found resting upon, or interposed between, those of a lower temperature. On the Himalaya mountains between the latitudes of 28° and 34° north, the region of vegetation has been found to extend many thousand feet above the supposed line of perpetual congelation assigned to those latitudes. It is also remarkable that the line of perpetual snow is found at a much greater altitude on the *northern* side of these mountains than on the southern side in a lower latitude. These facts, with others which are obtaining notice, will cause a revision of the hitherto prevailing theories in meteorology.]

The cold and heat of climates depend also on the vicinage of seas.—At Moscow, the thermometer ranges from 6 to 70, but at Copenhagen, in the same latitude, only from 27 to 65; so, at Vienna, it ranges from 26 to 70, but on the French coast, in the same latitude, only from 41 to 67.

The medium annual temperature of the whole earth is 50 degrees.

At the equator on the level of the sea, the mean annual heat is 84.2 degrees; at lat. 45, 58 degrees; in lat. 50, it is 53.6; in lat. 60, 45 degrees; and in lat. 70, 38.1 deg. The vicinity of the Poles, is assumed to be the freezing point 32 degrees. Between the tropicks, the variation from latitude is but 8 degrees; lat. 23° 8' being 76; in lat. 45, the average heat in summer to that in winter, is as 120 to 42, and the Arctick circle as 102 to 12.

In the Gulf of Guinea the thermometer rises to 130°; and Humboldt thinks that in the air it can never rise above 140; at sea it never rises above 85 or 83.

The thermometer in Italy ranges between 75 and 96°; and in winter, seldom descends below 40°, except in the mountains in the higher Appennines, where it falls to 20 deg.

The climate of the southern hemisphere is milder than the north. L. May, at Cape Horn, lat. 56, our November vegetation is flourishing.

The thermometer is usually highest at two o'clock in the afternoon, and lowest before sun-rise.

The average temperature of the winter months in England is about 40°, and of the summer months 65°. Devonshire and Cornwall are about 4 deg. warmer than London.

In the past century the severe frosts in England were in the winters of 1708, 1715, 1739, called the hard frost, 1742, 1754, 1776, 1788, 1796, and 1813.

In the counties round London the mean temperature and rain, in every month, are as under:—

January	36.1	1.483
February	38	.746
March	43.9	1.44
April	49.9	1.786
May	54	1.853
June	58.7	1.83
July	61	2.516
August	61.6	1.453
September	57.8	2.193
October	48.9	2.073
November	42.9	2.4
December	39.3	2.426
	48.5	22.199

The most intense cold ever known in London was on December 25, 1796. The thermometer was at 2° below zero.

The 14th of January, on an average of years, is the coldest day in the year.

The annual average of the thermometer at the north and south points of England, Carlisle, and Sandwich, is 48 and 50°; the maximum, in 1820, being 78 and 63, and the minimum 12 and 27. London is the same as Sandwich.

At Kinfaun's Castle, N. B. lat. 56° 23' the mean temperature for 1830 was 47.626. The rain 30.85 inches. Coldest day 10°, and hottest 79°. Barometer from 30.53 to 28.73.

The average heat of London in the first sixteen years of this century, was 50.93°. The hottest day, from 1774 to 1817, was in July, 1808, being 93.5, and the coldest, Dec. 25, 1796.

At London in 1830, the highest point of the thermometer was 90 in June, and the lowest 11 in January. The wettest month was 2.516 in July, and the driest 0.746 in February.

In New South Wales the coldest month averages 54°, and the hottest 75°. It rains 100 days in the year. The north-west wind is a scorching sirocco. The air is generally dry, but the night dews are heavy.

The mean temperature of Ireland varies from 47° to 53°.

The average heat of Boston is 47° 3', of Philadelphia 53° 7', of Washington 58.1, of Detroit 47.4, of Cincinnati 56.8, of Pittsburg 54.2, of New Harmony 56.69, Rain 42.85, Charleston 57 to 60, Richmond 56.1.

At Leeds, Yorkshire, the thermometer was, July 18, 1825, at 92; June 25, 1826, at 93; and Jan. 2, 1827, at 11 degrees.

An iceberg seen by Parry was above 250 feet out of the water, and therefore nearly one-third of a mile thick.

[In the months of March, April, May, and June, ice is often met with in the Atlantick ocean near the banks of Newfoundland, and sometimes as low as the 40th degree of latitude. It is brought down from the higher latitudes by the great northern or polar current, which in consequence of its greater density passes under the warmer current of the gulf-stream, and continuing its action upon the deeper portions of the great icebergs often forces them into the bosom of that stream, where they soon become dissolved.]

Temperature is so variable in South Carolina that the thermometer sometimes varies 50 degrees in 24 hours; it ranges no less than 83 degrees in the year. The rain averages fifty inches.

Clouds and Fogs are the same thing. We see the whole as a cloud at a distance in the atmosphere, but when the vapour sinks to the earth or will not rise, and we are immersed in it, we call it a fog. Dew fogs which hang over fields are *stratus* clouds; and fogs which involve elevated objects are *cumulus* clouds. [It is to circumstances of distribution, light, shade, and perspective, that the great variety in the *appearance* of the clouds is owing, and on this variety of appearance their imperfect classification has been founded.]

There are seven classes of clouds:

1. Like a lock of hair, or a feather, called *Cirrus*.

2. A cloud in conical round heaps, called *Cumulus*.

3. A level sheet, called *Stratus*.

4. A system of small round clouds, *Cirro-cumulus*.

5. The concave or undulated stratus, called *Cirro-stratus*.

6. The cumulus and cirro-stratus mixed, called *Cumulo-stratus*.

7. A cumulus, spreading out in cirrus and raining beneath, called *Nimbus*.

The cirrus is the most elevated—sometimes as a gauze veil—or parallel threads. Its height is from three to five miles.

Fleecy clouds are seen over head, on the tops of the highest Andes, and on looking over the sea, a stratum of mist is visible at the height of 10 or 11000 feet. Here, however, the sky is clearest, but it loses part of its clearness in passing from the high lands in the Torrid Zone, north or south.

[Dew is the condensation of watery vapour upon the surface of a condensing body or substance. Clouds and fogs are watery particles which are condensed while floating in the atmosphere, where they continue to float till precipitated, or again dissolved. If by the concentration of these particles, or by additional condensation, their weight be increased beyond that which the extent of their surface can sustain, they then descend in the form of rain. The formation of clouds and fogs, dews and rain, is therefore essentially the same, the latter being but the continuation or extension of the same process which produced the former.]

Evaporation is as the surface of water and as the temperature.

In the temperate zone the annual evaporation is 37 inches, but in the tropicks from 90 to 100; and the mean quantity of rain is in the same proportion. At Bombay, in 10 years, 78 inches per annum fell; in 1822, 113

inches; and in 1824 but 34. In the Brazils, in 1821, 280 inches fell; and in Cayenne, 160 inches in February only. At Cumana it is but 8 inches in the year. But in Peru none.

The atmosphere of Greece is so dry that at 86° F. nearly the whole of the animals and vegetables disappear.

The changes of the moon have no connexion with the weather.

The rainy season between the tropicks is when the sun is in vertical signs; and at other times there is not a cloud for months. North the rainy months are from April to October; and south, from October to April.

Rain, within the tropicks, is not of the drizzling character of rain in the temperate zone, but generally falls in such torrents as, in other zones, would be called waterspouts; and they produce greater floods in a single day than in Europe in six days. Winter is distinguished from summer chiefly by the quantity of rain, which, for six months, is often constant for many days together, and lasts a certain number of hours per day through the whole six months. The rivers, in consequence, overflow; and, in many countries, produce general inundations in all the low lands, which intercept communication, and, on drying off, make the atmosphere very unwholesome. Of course, such heavy and constant rains must tend to diminish the heights of the mountains and create embankments in the sea, as germs of future land.

The bulk and specifick gravity of rain water is taken, at 60 deg., as 1. Less heat diminishes its bulk and increases its specifick gravity. At 40°, one is .9907, and specifick gravity 1.00094. But at 80°, the bulk is 1.00242, and the specifick gravity .99759; and at 100°, is 1.006 and .9402.

Humboldt assigns 96 inches of annual rain to the equatorial zone, 80 to lat. 20, 29 to lat. 45, and 17 to lat. 60, as a general average.

From three to four times as much rain falls in a year between the tropicks as in higher latitudes; yet the number of days on which it rains generally increases as the latitude.

The average fall of rain for the United Kingdom is about 34 inches, but in the western and hilly counties is 48 or 50 inches.

The average rain in London for 40 years, between 1777 and 1817, was 20.686 inches. At Paris, in 15 years, 18.649. At Glasgow, in 17, was 21.033; and at Manchester, in 33, was 36.104. At Kendal, 1830, 58.03.

In 1800, the quantity of rain at Cambridge was 25.62; Lynden, Rutlandshire, 32.35; West Riding 26.9; Lincoln 24.11; Chatsworth 26.73; Lancaster 35.93; Kendal 48.2; Exeter 24.5; Plymouth 35.5.

The rain at Dublin is about 26 inches, and at Cork 36.

On the 9th of October, 1827, there fell at Joyeuse, in France, 29 inches of rain in 22 hours; and in 11 days 36 inches, double that at Paris in the year.

The mean quantity of water held in a cubick foot of air, in this climate, is 3.789 grains.

[The quantity of rain falling at a given point is found (in the higher latitudes) to depend greatly on the proximity of that point to the surface of the earth, without regard to the altitude above the level of the sea: the rain guage on the top of a mountain giving nearly as much as that on the plain beneath, whereas one guage placed on the top of a house or church, and another below give very different quantities. It appears from very accurate observations, that in one year there fell below the top of a house above a fifth part more rain than fell in the same space above the top of the same house;—and that there fell upon Westminster Abbey not much above half the quantity that was found to fall in the same space at the earth's surface. The following observations may be adduced.

Lower guage (in one year) 22.608 inches. Middle guage, top of a house 18.139 inches. Upper guage on Westminster Abbey, 12.099.

The experiment has been repeated in other places with the same result.]

Hail stones fall with a velocity of 60 or 70 feet per second. Rain from 10 to 30 feet. From 3 to 400 tuns of

rain fall annually on every acre in England.

Crystals of snow are from one-third to one-thirty-fifth of an inch in diameter. Their figures are diversified stars.

The red colour of some snow is ascribed to a fungus which grows on the snow.

The chymical difference between rain and snow water was determined by Margraaf to be very slight.

The Aurora Borealis, though seldom seen in middle Europe, is almost constant in the Arctick and Antarctick regions, covering the whole heavens and eclipsing, by its splendour, the stars and planets. It is accompanied by a rustling, snapping noise, and taken altogether, is often terrifick. Some ascribe these phenomena to fluids, as electrick or magnetick, of which they presume the existence.

The height of the Aurora Borealis in the Arctick regions is only 6 or 7 miles. A confused sound accompanies it, and it affects the magnetick needle. At Melville Island it always appeared in the south, and Parry therefore called it the Aurora Australis.

Luminous bands at vast heights, are often seen stretching from west to the zenith and beyond, and about three or four degrees wide. What they are is unknown, but they probably derive their light from the sun after it has set to lower regions.

The ignis fatuus and such other luminous meteors are the combustion of phosphureted hydrogen, on its ascension into the air, from putrid and fermenting vegetation or soils. Luminous clouds and the aurora borealis are supposed to be of the same nature, the gases in Polar regions being evolved by freezing, and burning in contact with hydrogen in the upper atmosphere.

The stones which fall from the atmosphere called aerolites, or aerolithe, are semi-metallick, and consist of—

Silica - - -	54
Oxyde of Iron - -	36
Magnesia - -	9
Oxyde of nickel - -	3
Sulphur - - -	2
Lime - - - -	1

Their specifick gravity is 3.4. Their origin is unknown; the different theories being very unsatisfactory. If they were projections from the moon, as some pretend, they would fall only in the tropical regions.

The records of stones falling in all ages and countries, are at least 300 in number; and some recent instances are perfectly well authenticated. They fall by the explosion of a mass which probably acquires increase of heat, as it approaches to the earth. The most probable theory respecting them is, that they are independent masses, floating in space, and encountered by the earth and atmosphere in the annual orbit. They fall in all latitudes, and, therefore, not from the moon; and their substance has a crystalline character, regular and sudden, not volcanick.

The meteorick stones which fell at d'Aigle, in France, in 1803, contained as above.—One which fell in Yorkshire, consisted of 75 Silica; 48 Oxyde of Iron, 37 Magnesia, 2 Oxyde of Nickel. Lists of 2 or 300 have been published by Chladni, King, and Howard, which have been recorded in different countries.

Near Baku, in Persia; in some parts of Italy; and in an island in the Levant, there are natural orifices in the earth, through which inflammable gas passes; sometimes it takes fire on coming into contact with the atmosphere, and at other times requires to be lighted like a gas lamp; similar gas constantly issues from the veins of coal mines, and may be lighted and consumed in like manner.

At Baku, temples for fire worship are erected over them; and one of them, the priests or devotees allege, has been burning for several thousand years, and will continue as a miracle till the end of the world. They call it the everlasting fire.

Hanway relates, that the flame makes the soil hot, without consuming it, and if made to pass through a cane or cone of paper, does not consume them, though the flame will boil a pot. The ground is dry and stony, and smells like sulphur, and if uncovered, the flame spreads to any distance. Brimstone is dug as an article of commerce, and naphtha springs arise, frequently in jets

2 or 3 feet high, which on drying, become black, like pitch. In Persia, they burn it in their lamps, and for cooking; and in Russia they use it as a medicine. Springs of hot water likewise arise near Baku.

The same sort of combustible exhalations arise in China, and that industrious people use them for purposes of manufactory.

Between 1666 and 1669, the village of Boncourt upon the Eure, containing 80 houses, was burnt at sundry times, by igniting exhalations like the *ignus fatuus*, of a blue colour and offensive smell. It was most frequent in August and September, and accompanied by clouds of a red colour.

[Wind is a sensible movement in the air over the earth's surface. It has been truly said that the theory of winds is one of the least perfect parts of natural philosophy. It is on facts alone that we must rely for more accurate knowledge.]

In the torrid zone, when mountains do not interfere, the winds follow the sun, and blow constantly in the open seas from east to west. This tract extends about 25 or 30° on each side the equator.

Below latitude 30°, there is a general tendency of the wind to blow from the east and south-east. There is often noticed an upper current blowing contrary to the trade winds. Westerly winds prevail from 30 to 60°. In hot climates near the sea shore, the wind sets from the sea to the land during the day, and the contrary by night. In the Polar regions the winds are more irregular than in lower latitudes. Winds increase in force with elevation.

The constant current of the trade winds produces other winds to the north and south, tending to maintain the general equilibrium; and near the coast they are varied by the diurnal changes of temperature which result from the proximity of land; and also by mountains.

In the Indian ocean the trade wind instead of blowing from east to west, takes opposite currents for six months, and at the times of change they produce tornados and storms by what are called the breaking up of the Monsoons, which is the name of the six months' wind. To the south of the equator, from 10 to 23°, the wind blows constantly from the east and south-east; but from 10° northward to the equator, north-west winds blow from October to April, and south-west from April to October; and north of the equator to the Tropick of Cancer south-west winds prevail from April to October, and north-east winds from October till April.*

[The north-west and south-west Monsoons, which have been erroneously ascribed to the effects of local or continental rarefaction, are sometimes found to extend themselves far to the eastward of the Asiatick continent and islands, and even to the central portions of the great Pacifick ocean.

The dry current of the north-east Monsoon on approaching the equator becomes deflected and checked in its course, and after crossing the equator returns again to the eastward, in the southern latitudes, in the form of the wet north-west Monsoon. On the other hand the dry south-east Monsoon which prevails in the opposite season south of the equator, becomes deflected in the equatorial region in the same manner, and returns to the eastward north of the equator in the character of the south-west Monsoon.

In Ceylon, (lat. 8° north) the north-east Monsoon, with a temperature of 68° Fahrenheit, has a dryness of 75 hygrometrick degrees. The opposite Monsoon, from the south-west at 82° Fahrenheit, is so damp as to indicate but 30 degrees.]

As the winds, over a breadth of 60 degrees, blow, with slight interruption, from east to west; so in the northern and southern hemispheres the atmospherick equilibrium demands that the prevailing winds should be from west to east, and therefore, for the most part, westerly winds prevail for two-thirds of the year, and they enable ships which sail to the West Indies by the trade winds to return to the East by

* The hypothesis of rarefaction, which in the English edition was interwoven with some of these paragraphs, has been omitted. The omission is at least in accordance with the late practice of the best European writers in this branch of natural philosophy. —Am. Editor.

first ascending to the latitude of 40 or 45°.

[The trade winds, in both hemispheres, on approaching the western borders of the great oceans, become deflected in their course, and passing into higher latitudes in the form of south-west and north-west winds, they become identified with the prevailing westerly winds in these latitudes. On the eastern borders of these oceans the air returns towards the equator in the form of northerly or southerly winds, which on crossing their respective parallels of 30°, become merged in the easterly trades, on both sides the equator; the locality, as well as activity, of these aerial circuits, being affected more or less with the change of seasons. This appears to be the great law of circulation in our atmosphere; and it is to the physical character and course of the winds in different portions of these great circuits, that the peculiarities of temperature and climate which pertain to certain countries lying in the same latitudes, but on opposite sides of the same ocean, is chiefly to be referred; as also the remarkable absence or predominance of *rain* in certain countries and latitudes. The Monsoons of the Indian seas are but a modification of the same system of circulation. Counter circuits are sometimes formed in subordinate basins, and in high latitudes; the irregularities usually becoming greater in proportion as we recede from the equatorial regions.]

In Great Britain, westerly are to easterly winds, as 223 to 140. The northwardly are to the southwardly as 192 to 173. And the north-east are to the south-east, as 74 to 54.

At London, south-west winds blow 112 days; north-east 58; north-west 50; west 53; south-east 32; east 26; north 16; and south 18. The mean of Great Britain is 220 westerly, and 145 easterly. In the torrid zone, the winds are constantly north-east on the north of the equator, and south-east on the south side.

[In the state of Vermont it has been noticed that their north-west and west winds always begin on the sea side.

In Lower Canada and over the St. Lawrence, the reigning wind is the south-west, and next to it the north-east. Very often the North-west is unknown while it blows in Maine and Nova Scotia.

In almost every country, as well as in every sea, the wind is more or less predominant in a particular direction.

From the average rate of sailing of ships during long voyages through various seas, as in the China trade, and from other data, it is estimated that the average velocity of the wind near the surface of the ocean is equal to 18 miles an hour throughout the year.

Notwithstanding these general and determinate horizontal movements, the equal distribution of the atmosphere over the surface of the globe, which results from gravitation, tends to prevent any very rapid or violent motion in any specifick direction, and consequently to prevent violent and destructive winds. But, owing to the tendency of all fluid matter to run in whirls, or circuits, when subject to the influence of unequal or opposing forces, a rotative movement of unmeasured violence is sometimes produced. This peculiar movement which in its most active state is sometimes distinguished by the name of tornado or hurricane, assumes every possible variety of position, appearance, velocity, and extent; and is the only *known cause* of violent and destructive winds or tempests.

The various phenomena and effects which result from this cause, are usually considered as distinct meteors, and are variously named in different countries, according to their sensible appearances, intensity, extent, and duration. Such stormy meteors are distinguished by the following among other names, which are often applied in an indeterminate manner and sometimes to the same, or modifications of the same phenomena.

Class 1st. *Aerial meteors or phenomena constituted by whirls or violent movements of limited extent.*

Flaw
Whirl
Gust
Rush of wind
Whirlwind
Helm, or Helm wind

Spout
Waterspout
Sandspout
Sand Pillar
Fire Pillar
Turbo
Turbonado
Tourbillon
Tornado
Bursting of a Waterspout
Falling of a Waterspout
Bursting of a cloud
Squall
Thunderstorm
Hailstorm
Sandwind
Samiel
Simoon

CLASS 2*d*. *Whirlwind-storms or violent movements of greatly increased extent.*
Gale
Blow
Storm
Pamperro (in La Plata.)
Norther (Mexico.)
Hurricane
Typhoon, or *Tau-fung*, &c.

Names of general or periodical winds of the nature of currents.

Trade Winds
Monsoons
Etesian Winds
Harmattan, &c.]

Wind is determined by the anemometer, by Lind, Daniel, and others, to move with velocity and force, as under:

	miles per hour.	force in lbs. per square foot.
Gentle	4.5	0.079
Pleasant	8.0	0.260
Brisk gale	16.0	1.107
High	36.0	5.208
Storm	62.0	15.625
Hurricane	88.0	31.25
Great hurricane	120.0	58.0

A West India hurricane has blown heavy cannon out of a battery and in exposed situations, walls of solid masonry with strong coping, not exceeding four feet in height, have also been destroyed.

Balloons have travelled 60 miles an hour, when the anemometer showed but 8 miles.

The samiel is a hot noxious wind which sometimes passes over the sandy deserts of Arabia and Africa. It moves with the quickness of lightning, and passes in narrow currents lasting only a few minutes. It occasions instant death to every man or beast who happens to face it, and it is said that it so decomposes them that their limbs fall asunder. The coming of it is indicated by a thick haze in the horizon, and travellers, if they have time, throw themselves on their faces with their feet towards it till it has passed. Hewlitt thinks that it was a samiel that destroyed the army of Sennacherib.

The sirocco is a blighting hot wind which prevails in Italy, &c., about April.

In 1813, a caravan of 2000 persons was buried by a tornado of sand, between Muscat and Aleppo, only 20 escaped.

[The Harmattan is an east wind of great dryness, which visits the western coast of Africa in the low latitudes, in the months of January, February, and March. It is probably the true trade wind, which ordinarily does not act in these regions as a surface wind, but passes in a higher stratum.

The Helm wind is a violent whirlwind, peculiar to the western side of the Cross Fell mountain in Cumberland; and it occurs only during an easterly wind. Whirlwinds of the same character are not uncommon in other regions where obstructions are presented to the regular wind.

Whirlwinds of great extent always act horizontally; those of small dimensions act either horizontally or vertically, or at any intermediate angle of inclination. Many of this smaller class of whirlwinds occur in the atmosphere which do not reach the surface of the earth, and can be recognised only by the sensible phenomena which they produce. The most obvious of these characteristicks are, the cloudy pipe or pillar called the waterspout; thick masses of turbulent clouds; thunder and lightning; often repeated or continuous thunder, or lightning; a continued roar in the atmosphere resembling the noise of a loaded waggon driven rapidly on frozen ground, or in some cases like the continued discharge of artillery and

small arms; hail of uncommon size in a circumscribed locality or running in veins; large drops of rain; a deluge of rain falling in a small compass; the falling of sand, ashes, small fish, reptiles, and other matters previously taken from the surface; &c. &c.

Whirlwinds of whatever form or extent, and however active or violent their revolutions, move forward only with the velocity of the more regular wind by which they are impelled.

In clear, calm, and sultry weather, whirlwinds have been excited by extensive fires, burning simultaneously in a large circle, and have exhibited violent and continued electrick explosions, and the peculiar phenomenon of the *turbo* or whirling pillar, with other of the above characteristicks.

Volcanick eruptions often excite whirlwinds of great altitude, and of the most violent character.

Thunder storms are supposed to be whirlwinds, gyrating, in ordinary cases, on a horizontal axis of rotation. The wind which they exhibit often blows with a velocity greatly exceeding the progress of the thunder storm, as is the case with other whirlwind storms.

The presence of warm and humid air is supposed to be necessary to the production of violent electrical phenomena, such as thunder and lightning. The latter phenomenon is generally caused by the commingling of air, of different temperature and condition.

Hurricanes are the most violent and destructive storms of the Atlantick ocean. They are of the whirlwind character, and the direction of their rotation in the North Atlantick is from right to left, horizontally. In the latitudes of the West Indies, their general course or *drift* is towards the west, inclining, however, gradually to the northward. About the parallel of 30° their progress to the westward ceases, and passing into higher latitudes they pursue an easterly course, on a track nearly parallel to the American coast.

A hurricane which occurred in August 1830, has been traced from near the windward islands of the West Indies to the coast of Florida and the Carolinas, and thence to the banks of Newfoundland, a distance of 3000 miles, which was passed over by the storm in about six days. The width of the track exposed to the influence of the storm, in different degrees of violence, was from 300 to 600 miles; and its duration at each point from 12 to 24 hours, its greatest violence being exhibited in from 6 to 12 hours. Many other storms have been traced in like manner and on a corresponding track.

In the West Indies, hurricanes begin to blow from a northern quarter of the horizon, and thence changing to the west and round to a southern quarter, and then their fury is over. These phases however will be found somewhat different towards the two opposite margins of a storm's track, and also in positions which are sheltered in some directions from the action of the storm by elevated land. On the coast of the United States these storms commence blowing from an eastern quarter which corresponds to the change in their line of progress, and exhibiting changes of a like character, they terminate with fair weather from a western quarter.

The direction of the wind and the progressive changes in great storms, are found to accord with the locality or position of the storm in the great oceanick circuit of wind or atmospherick current. In the southern hemisphere the course and changes of such storms appear to be *counter* to those in the northern hemisphere. Thus storms in the northern latitudes in certain circumstances blow first from the *southeast* and then change to the north-west; while in New-Holland, storms in like circumstances blow first from *northwest* and then change to southeast.

Little is known of the direction of the wind upon the highest mountains, but in Peru and at the Sandwich islands at the height of about 18000 feet it is found to be fresh from the southwest, and on the peak of Teneriffe about 10000 feet above the sea a strong wind blows from the west.

Volcanick ashes when carried into the higher regions of the atmosphere are usually wafted to the eastward. Upon an eruption of Mount Vesu

vius in 1631, a shower of ashes fell upon the coast of continental Greece and also at 100 leagues distance towards the coast of Syria. On the eruption at St. Vincent in 1812, ashes were deposited at Barbadoes 60 or 70 miles eastward, and also on the decks of vessels 100 miles still farther east, while the trade wind at the surface was blowing in its usual direction. In the same year ashes fell upon the deck of a British packet bound to Brazil, when distant nearly 1000 miles from the nearest land.

Nearly all the sensible phenomena of the atmosphere occur below the height of 18000 feet, and generally much nearer to the earth's surface. Owing to the retardation of the surface winds and to other causes, the currents in the lower atmosphere run upon each other in horizontal strata, which differ much in temperature and hygrometrical condition as well as in the direction and velocity of movement. It is to the condition of these strata and their influence upon each other that the formation of clouds and rain is chiefly to be ascribed.

The wind goeth toward the south, and turneth about unto the north; it whirleth about continually, and the wind returneth again according to his circuits. All the rivers run into the sea; yet the sea is not full: unto the place from whence the rivers come, thither they return again. This is probably the best epitome of meteorology extant. Whether its comprehensive accuracy be partly owing to an imperfect translation, it is not necessary to inquire.]

Showers of frogs, fishes, &c. arise from water-spouts, or spiral eddies, [whirls] by which portions of the waves of the sea and ponds of water, with their contents, are forced to an elevation; and thus being transported to a distance, and there falling, produce these strange precipitations. A water spout or whirlwind often works spirally like a cork-screw, and moves along like an eddy in agitated water, till its force is scattered, and its contents fall; it commonly begins revolving at the bottom of a cloud which descends within it, and from which pillar-like appearance the term water spout has been derived.

The thermometer was invented by Santorius and Drebel in the 16th century. To convert degrees of Reaumur into Fahrenheit, you multiply by 9, divide by 4, and add 32. But to convert Fahrenheit into Reaumur, you subtract 32, multiply by 4, and divide by 9.

Fahrenheit, a merchant of Dantzick, invented his thermometer in 1720.

Every point of the Mariner's Compass is $\frac{360}{32} = 11\frac{1}{4}°$ — or a half 5° 37′ 30″, and a quarter 2° 48′ 45″.

The ordinary pressure of the atmosphere, on a square foot, is 2158 lbs.; on an inch, 15 lbs. equal to 30 inches of mercury, or 34½ feet of water; for a cubick inch of mercury weighs half a pound, and a cubick foot of water, 62½ pounds.

The barometer, in the temperate zones varies 3 inches from 28 to 31, but between the tropicks but ¼ of an inch.

[In the tropical latitudes the pressure of the atmosphere is nearly uniform, the mercury in the barometer standing at about 30 inches throughout the year. In higher latitudes the pressure is more variable.]

Barometers are used to indicate the height of mountains, because the elasticity diminishes as the aerial space enlarges. The rule is as follows: To substract the logarithm of the number of inches at the top from the logarithm of the number of inches at the bottom, and the difference multiplied by 60,000, gives the elevation in feet. Then to correct this by the variation of the thermometer at the two stations, shift the decimal point three places to the left and multiply by twice the sum of the degrees on the thermometer at top and bottom; add this to the first determination, and the sum will be the true elevation. For example, in the case of Snowdon, the barometer at bottom is 30.091, and at top, 26.439; the difference of their logarithms is 0.5614, which multiplied by 60,000, gives 3668.4; to correct which, 3.37 × by 50.8 as above, = 171.2 × 3668.4 = 3589.6, the true height.

There is another rule by the proportion of the sum of the two heights of the barometer to their difference,

as 52,000 to the height; thus, in the case of Snowdon, as 56.53 is to 3.652, so is 52,000 to the height which is to be corrected for difference of heat as before. The number 52,000 being a constant quantity in this ratio.

The variations in the barometer from the expansion of heat, are in this climate from the 10th to 20th of an inch. The variation depends upon the varied elasticity of the air. From 10 in the morning to 4 in the afternoon, between the tropicks, the barometer falls: it rises till 10 at night, falls till 4 in the morning and rises again till 10 in the forenoon, in all about a 500th part of the entire elevation. There is much quackery in the words usually written on the plates of barometers as the changes indicated depend on several circumstances, besides the elasticity of the air.

Torricelli, a pupil of Galileo, having discovered that no principle of suction existed, and that water did not rise in a pump, owing to nature's abhorrence of a vacuum, imitated the action of a pump with mercury, and made the first barometer in 1643, and Descartes explained the phenomena. Suction was, however, defended all over Europe, and atoms were supposed to be provided with hooks, by which both suction and attraction were effected. In 1654, Otto Guericke, of Magdeberg, made the first air pump which opened a new field to science, and by the use of which, Boyle in England, acquired fame.

The surface of mercury in a barometer in rising is convex, because the friction of the central parts of the fluid mercury, is less than the friction of the mercury at the sides next the glass; and in falling it is concave for the same reason, i. e. the increased friction between the glass and mercury detains the ring next to it. The local atmospheres between the glass and mercury, are also concerned in this phenomenon.

If the atmosphere were of equal density, the rise of the barometer would indicate a rise of five miles, but the rise of the barometer depends more on the elasticity than the density, and, therefore, is not a criterion of the height.

The greatest depression of the mercury in England has been to 28.1 inches.

Barometers rise and fall together even at great distances. They fluctuate less at elevations above the sea. Northerly winds raise them, southerly winds sink them.

[The fluctuations of the barometer appear to be owing to different causes, and may be classed as follows:

1st. The regular semi-diurnal variation, which, in the tropical latitudes is at its maximum about 10 A. M., and at its minimum about 3 P. M. At New-York it is nearly the same, but in very high latitudes the effect is reversed, the minimum being at 10 and the maximum at 3 o'clock. It appears to indicate a system of atmospherick tides, resulting from the rotation of the earth and its connexion with the solar system.

2d. The variation which results from the mechanical action of circuitous winds and the larger atmospherick eddies, which comprise not only the storms but a large portion of the winds in the higher latitudes. During the passage of these eddies or storms over the place of observation, the barometer sinks while under their first or most advanced portions, and rises as they pass over or recede. The most prominent variations of the barometer are of this character.

3d. The general movement or oscillation of an extensive region of atmosphere in the higher latitudes, under the alternately predominating influence of centrifugal action towards the equator, and gravitation towards the poles. These extensive oscillations are infrequent, and nearly uniform in their effect on the barometer over an extensive region of country at nearly the same time.

The extent of the vibrations of the column of mercury between the tropicks was .067.

The highest range in the polar regions observed by Capt. Parry, was 30.86. During a violent storm or hurricane the barometer has sometimes fallen below 28 inches.

The fall of the barometer has no necessary and immediate connexion with rain, although storms of wind which effect the barometer are often

attended by rain. It appears from the observations of the Marquis Poleni, that in 1175 instances of falls of rain, the barometer sunk only 758 times, being 645 to 1000. The most copious rains sometimes fall during an unusual elevation of the barometer.

The prognostications of rain and fair weather which are usually affixed to the scale of the barometer, are entitled to no attention, and often serve to discredit this valuable instrument. Changes of weather are indicated, not by the actual height of the mercury, but by its change of height. Violent storms of wind are always preceded by a fall of the barometer, and one of the most general rules is, that when the mercury is very low, high winds may be expected.]

Capillary attraction is an effect or motion of parts of fluids when the general pressure on the mass is intercepted by any intervening solid. Thus in a barometer or pump-bore the pressure is taken off in the tube or bore, while it continues on the outer surface: if a solid be placed in the water the water rises round the solid, because the solid intercepts the pressure on its own side. If two solid plates are brought together, the water rises much higher, being pressed upon only through the sides. If the plates are closed at the side, as in the manner of a tube, the water rises in the tube in proportion as the bore by its smallness, diminishes the downward pressure. If a solid of less specifick gravity than mercury be immersed in mercury, the pressure acts more on the solid than the mercury, and occasions a depression. If water be placed under the receiver of an air pump, it becomes vapour, or so much becomes vapour, as by its elasticity to sustain the remainder as vapour, and hence it will rise in a tube nearly as in the open air. These effects are important, because to them is owing the rise of moisture in the tubes of plants and all saturation. Viscidity varies the ascent, and also density, but in general, the diameter of a tube multiplied by the height is a constant quantity. Experimenters find great varieties in the results which are occasioned by moisture, for the atmospheres of similar atoms or bodies combine, and thus, atoms of water in a tube facilitate ascent. Two plates, after immersion, sustain a plate of water, but if dry, scarcely any will rise between them. It is this principle of intercepted pressure which occasions a plumb line to incline towards a mountain, and boats to congregate about a ship, and small corks about a bung, but if the bung is as dense as the water, and floats below the water, the corks are not acted upon; from like cause, floating bodies are pressed towards the side of a vessel. In a capillary tube, one-hundredth of an inch in diameter, different experimentalists have found water rises in such tube, 2, 3, 4, and 5 inches, but this depends on the length of the tube, because the downward pressure from the top would be as inversely as the length, from the fluid to the top. With a tube, one-twenty-fifth of an inch in diameter, Martin found that spring water rose 1.2; vinegar, 9.5; milk, 0 8; oil, 0.6; rum and brandy, 0.5; depending, of course, on the viscidness. Philosophers have published many theories on these subjects, but the labours of Dr. Young are most to the purpose.

When a capillary tube is the 50th of an inch, *water* rises in it 2½ inches; when the 100th, 5 inches; and when the 200th, 10 inches. When two plates of glass are placed at an angle in water it rises 2½ inches, where the plates are the 100th of an inch asunder, and 5 inches where the 200th, or half the height which it rises, where the pressure of the air is closed all round, as in a capillary tube. The rise in both cases being entirely owing to the intercepted pressure of the atmosphere by the glass, and depending on the angle which the top of the tube forms with the water, being less and less as the bore or angle is enlarged.

Water will not rise between cakes of wax or grease, and oil of turpentine rises but one-fourth, but spirits of wine rise two-fifths. Mercury sinks round glass or any substance lighter than itself, and water sinks when the tubes are made of lighter substances; the experiment in those cases, being reversed or at right angles to the former.

Common AIR pumps rarify the air from 100 to 300 times, the best from 2 to 3000 times.

ACOUSTICKS.

In air, sound travels from 1130 to 1142 feet per second.

The lowest sound which the ear can discriminate, is, according to some, 12½ undulations in a second, and to others, 30; and the most acute, rather above 6000, and, according to others, 14,000 vibrations per second.

Sound affects particles of dust in a sun-beam, cobwebs, and water in musical glasses; it shakes small pieces of paper off a string in concord. Deaf persons may converse through deal rods held between the teeth, or held to their throat or breast.

In sound, as in light, the angle of incidence is equal to the angle of reflection. The laws of catoptricks apply to sound.

Echoes are distinguished when the time between delivering a sound to its return is more than one-twelfth of a second; and as the sound goes and returns, so, to the speaker, there can be no echo in less than $\frac{1130}{24}$, or 47 feet; and syllables cannot be repeated in less than one-seventh of a second more, or 161 feet for each syllable.

The report of a gun is heard before the word fire, which directs the discharge.

In water, sound passes at the rate of 4706 feet per second.

A bell does not in water produce a tone, but a short noise, like two knives struck together. The agitation of the water produces no change. In the water, a large bell is heard 45,000 feet; but in the air, out of the water, but 656 feet.

The fire of the English, on landing in Egypt, was distinctly heard 130 miles on the sea.

Dr. Jameison says, he heard every word of a sermon at the distance of two miles.

Counter-point, or melody with harmony, as treble and base, was invented by Guido about 1022; and the time-table by Frameo, in 1080.

Pythagoras is said to have invented harmonick strings, in consequence of hearing four blacksmiths working with hammers in harmony, whose weights he found to be 6, 8, 9, and 12; or rather, by squares, as as 36, 64, 81, and 144.

Scotch musick is referred to their James I.

Chanting the Psalms was adopted by Ambrose, about 350, from the Pagan ceremonies of the Romans. Church organs were in general use in the 10th century. The shortest notes in the middle ages were the semibreve and minim, now the longest.

The lyre of the Greeks was the harp of the moderns; and the viol, and vielle of the middle ages, is the modern violin.

The gamut is so called from *gamma*, the third letter of the Greek alphabet, used by Guido for his lowest note. It consists of 20 notes, two octaves, and a major sixth. The first expressed by capitals, the second by small letters, and the rest by double small letters; as G, A, B, &c., g, a, b, &c., and gg, aa, &c. It is now extended to the entire scale of five or six octaves.

In musical compositions there are two species of keys, the major and minor; the sharps and flats being referred to C major or A minor.

A sharp is half a tone higher: a flat half a tone lower.

Large bells are one-fifteenth of the diameter thick, and one-twelfth of the height. Bell metal is made of copper and tin. Small bells made of tin, silver, copper, or gold, give sounds in acuteness, as 253, 266, 282, 294, respectively. They were used in English churches about 700, and for that purpose consecrated with peculiar ceremonies: some say baptized, and had proper names given them. Popes themselves assisted in this absurdity. They were supposed to put demons to flight, and were rung during eclipses, to drive away the dragon which was about to devour the moon; and which dragon the astrologers still recognise, by calling the northing node the dra-

gon's head, and the southing node the dragon's tail, to which they ascribed potent effects. On St. John's Day, they were rung furiously, to put his devils to flight and prevent the storms. A Popish council, by formal decree, directed that bells should be blessed to affright demons and witches, avert lightnings and whirlwinds, and baffle the spirits of the storm; and, for the benefit of departed souls, bells were to be tolled; nine knells given for a man, six for a woman, and three for a child; a custom which still continues. The great bells at Pekin weigh 120,000 lbs., and there are seven of them. The great bell at Moscow is 70 feet in circumference, and 21 feet high, and weighs 444,000 lbs.; that at Erfurt weighs 252,000 lbs.; and the clapper, 12 feet long, weighs 1100 lbs. The cathedral, at Antwerp, has a musical combination of 33 bells, the largest seven feet wide and eight feet high.

Church organs are in two parts, the main and the little organ before the other. The largest pipe expresses the size, as 8, 16, or 32 feet organs. That at Ulm is 93 feet high and 28 broad; its largest pipes 13 inches bore, with 16 pair of bellows.

The organ was invented by one Ctesibius, a barber of Alexandria, about 100 B. C.

The organ in the new church, at Amsterdam, has 52 whole stops, besides half-stops, and two rows of keys for the feet and three for the hands; and a set of pipes that imitate a chorus of human voices.

The Hon. Robert Boyle believed, that the sound of a drum, made of wolf's skin, would break another made of sheep's skin; and that a harp, strung with fox-gut strings, would make hens fly away. His philosophical writings, and even those of Lord Bacon, abound in superstitions of this kind.

The bag-pipe, a Celtick musical instrument, much used in the Highlands and Ireland, is composed of a leathern bag: connected is a pipe or chanter, with a reed, and the passage of the air from the bag produces the tones. These are all drones, two in unison with D on the chanter, and a long drone an octave lower.

M. Kempelon, a Hungarian, lately made a speaking machine. It consisted of a reed or glottis—of an air-chest with valves, bellows for lungs, a mouth and jaws, and nostrils. It pronounced most letters perfectly, but D, K, G, and T, imperfectly; and even long words and sentences with great facility.

The organ, at Weingarten, has 66 stops and 6666 pipes; and that at Haerlem has 60.

The famous Temple organ, in London, was erected by competition of Schmidt and Harris, two famous builders; and, after long-protracted disputes about their merits, the question was referred to Mr. Jeffries, afterwards Chief Justice, and he decided in favour of Schmidt.

The pianoforte was invented in London, about 1766, by Zumpi, a German.

The lyre, the harp, the flute, and the violin, were known to the Romans.

Sounds are more intense as the air is denser, and they die away on the exhaustion proceeding under a receiver. Water is a better conductor of sound than air. Wood also is a powerful conductor of sound, and so is flannel or riband. Gunpowder makes no report under an exhausted receiver. Sounds are distinct at twice the distance on water that they are on land. Sound travels about 900 feet for every pulsation of a healthy person, at 75 in a minute.

In the arctick regions, persons can converse at more than a mile distant, when the thermometer is below zero.

PHYSICAL GEOGRAPHY.

[Physical Geography, or natural geography, as it is sometimes called, relates to the principal features of the earth's surface, and comprises also a knowledge of the climate, temperature, winds, currents, and other natural causes which affect the condition of various parts of the earth and its inhabitants.

The most general view of the globe presents us with the two great divisions of land and sea.

There is, in fact, only one continuous fluid surrounding the land,

all the gulfs and inland seas being branches of this universal ocean; but for the sake of convenience, different parts of it have distinct names given to them.

The following are the principal seas into which the ocean has been divided, as will be clearly understood by referring to the map of the world.

I. The great basin of the Southern and Pacifick oceans, the waters of which cover nearly half the globe. It includes,

1. The *Antarctick Ocean*, which is comprised between the antarctick circle and the south pole.

2. The *Southern Ocean*, the boundary of which on one side, is the antarctick circle; on the other, a line drawn from Cape Horn to the Cape of Good Hope; thence to Van Dieman's Land; and again by the south of New Zealand to Cape Horn. These two divisions are sometimes with propriety called the *Great Southern Ocean*.

3. The *Indian Ocean*, lying between Africa on the west, and the peninsula of Malaya with the islands of Sumatra, Java, &c. and New Holland on the east, and bounded by Persia and Hindostan on the north. The Red Sea or Arabian Gulf, the Persian Gulf, and the Bay of Bengal, are all parts of this ocean.

4. The *Pacifick Ocean*, divided by the equator into *north* and *south*, and enclosed between America on the east, and New Holland, the islands of Java and Sumatra, and the continent of Asia, on the west. On the north it terminates at Behring's strait. The seas of China, Japan, Okotsk, &c. form parts of this ocean.

II. The great Atlantick basin, forming a channel between the old and new continents. It includes,

1. The *Atlantick Ocean*, commencing in the south, from a line drawn from Cape Horn to the Cape of Good Hope, and terminated on the north by the arctick circle. It is divided into *north* and *south* by the equator, and its branches are the Mediterranean, the North Sea or German Ocean, the Baltick, Baffin's Bay, Hudson's Bay, the Gulf of Mexico, and the Caribbean Sea.

2. The *Arctick Ocean*, surrounding the North Pole, and bounded by the arctick circle, and the northern shores of the two continents. The White Sea, the Sea of Kara, and the Gulf of Obe, are parts of it.

The ocean is spread over nearly seven tenths of the globe; and the land and water are very unequally distributed between the northern and southern hemispheres. The following calculation will plainly exhibit this fact:

Considering the whole space included in the northern part of the torrid zone, as equal to 1, the proportion of land is	0.297
On the same supposition, the proportion of land in the northern temperate zone is	0.559
And in the northern icy zone,	0.400
In the southern part of the torrid zone, the portion of land is	0.312
In the southern temperate zone,	0.075
In the southern icy zone, nearly none.	

In other words, if the quantity of land in the northern hemisphere be represented by 16, the quantity in the southern will be scarcely equal to 5.

The general direction of the land in the two continents is entirely different. In America it is from pole to pole; in the old world it is from south-west to north-east. In both continents the direction of the large peninsulas is similar, almost all of them running towards the south. This is the case with South America, California, Florida, Alaska, and Greenland in the new world, and in the old with Scandinavia, Spain, Italy, Greece, Africa, Arabia, Hindostan, Malaya, Cambodia, Corea, and Kamtschatka. The only exceptions are the peninsula of Yucatan in Mexico, and that of Jutland in the north-west of Europe. The two continents differ from each other very much in the character of their outlines, for while the coast of the old world is broken on all sides by gulfs, bays, and inland seas, the new world has a series of openings on its eastern shore only. Of its western side, the only inlet of any magnitude is the gulf of California.

Mountains are the most considerable elevations of the surface of the earth. Mountains are most commonly so near to each other, and are disposed in such a manner as to give the idea of *chains*; which term ap-

plies to series of mountains, the bases of which are continuous. The most remarkable of these are long connected chains, like the Andes and the Chippewan or Rocky mountains, which continue for several thousand miles nearly in one direction, having on both sides inferiour ranges, but sending off hardly any secondary chains.

Some mountains are completely insulated, that is, are quite remote from any chain or group. Volcanoes are more particularly of this kind.

The character of mountains would seem to depend upon the sort of rock of which they are composed. Granite, when exposed, forms lofty and rugged elevations; gneiss is much less precipitous, and slate commonly not at all so. In this respect there is a remarkable difference, which Humboldt has noticed, between the old and new continents. In the former, the highest points of the Alps consist of granite; but in America granite is not found higher than 11,000 or 12,000 feet above the level of the sea, and the newest floetz; trap or whinstone, which in Europe appears only in low mountains, or at the foot of those of great magnitude, covers the tops of the Andes. Chimborazo and Antesana are crowned with vast walls of porphyry; and basalt, which in the old continent has not been observed higher than 4,300 feet, is on the very summit of Pichinca. Other secondary formations, among which may be mentioned limestone, are also found at greater heights in the new than in the old world.

The following is a table of the height of some of the principal mountains on the globe, reckoning from the level of the sea.*

		Feet.
EUROPE.		
Mount Blanc,	Alps,	15,668
Mount Rosa,	Alps,	15,527
Jungfrauhorn,	Alps,	13,730
Wetterhorn,	Alps,	12,500
Pass of Gt. St. Bernard,	Alps,	7,968
Do. of Mount Cenis,	Alps,	6,778
Do. of the Simplon,	Alps,	6,580
Nethon,	Pyrenees,	11,427
Perdu,	Pyrenees,	11,275
Monte Corno, (Appenines,)		9,523
Etna,* in Sicily,		10,870
Vesuvius, near Naples,		3,932
ASIA.		
Dhawalagiri,	Himalaya,	28,077
Jewahir,	Himalaya,	25,747
Monna Roa, (Sandwich Is.)		15,988
Ophir, (Sumatra,)		13,840
Egmont, (New Zealand,)		11,430
Ararat, (Armenia,)		9,600
Awatsha,* (Kamtschatka,)		9,600
Lebanon, (Palestine,)		9,600
AFRICA.		
Geesh, (Abyssinia,)		15,000
Atlas, (Morocco,)		11,980
Peak of Teneriffe,*		12,180
AMERICA.		
Chimborazo,	Andes,	21,425
Antesana,*	Andes,	19,136
Cotopaxi,*	Andes,	18,867
Pichinca,*	Andes,	15,931
Popocatepetl,*	Mexico,	17,720
Iztaccihuatl,	Mexico,	15,705
Lake of Tobica,	Mexico,	12,195
Silla de Caraccas, (Venezuela)		8,633
Itacolumi, (Brazil,)		5,756
Mt. Washington, (New Hampshire,)		6,650
Blue Mountains, (Jamaica,)		7,278
Mount St. Elias,		17,863

* For a more complete teble, see Part II. of the Treasury of Knowledge.

It is remarkable that in the old continent the principal chains of mountains contain no volcanoes, and that islands, and the extremities of peninsulas, are alone the seats of these convulsions; while in the new world, the immense range which runs along the shore of the Pacifick Ocean possesses more volcanoes than are found in the old continent and its adjacent islands.

Professor Jameson has given the following estimate of the number of volcanoes:—

Continent of Europe, ...	1
Islands of do.	12
Continent of Asia, ...	8
Islands of do.	58
Continent of America, ...	97
Islands of do.	19

No volcano has yet been discovered on the continent of Africa, but most of its groups of islands are distinguished by them.

Several mountains bear evident marks of having, at some distant period, been the outlet of fires; and on this account they are called *extinct* volcanoes.

It has sometimes happened, that

(Note.) Those marked * are volcanoes

new islands have been formed during *submarine* eruptions. An instance of this kind occurred in 1811, in the neighbourhood of St. Michael, one of the Azores, which lay about 800 miles west of Portugal. This new island has since disappeared. More recently a new island has appeared in the Mediterranean, near the island of Sicily, which disappeared after the lapse of a few months.

A considerable portion of the islands of the globe, are found to be of volcanick origin.

Many islands, especially those in the South Sea, owe their origin to the marine insects which produce the coral. Some, are banks of sand, just raised above the surface of the water.

The bottom of the sea appears to have inequalities similar to the surface of the continents; the depth of the water is therefore extremely various. There are vast spaces where no bottom has been found; but this, of course, does not prove that the sea is bottomless, because the line is able to reach but a comparatively small depth. If we were to found our opinion upon analogy, we might conclude that the greatest depth of the ocean is equal to the height of the loftiest mountains, that is, between 20,000 and 30,000 feet.

The level of the sea, if it were not for the action of disturbing causes, would be the same every where at the same instant, and the figure assumed by the ocean would be the true surface of the planet, that of an oblate spheroid. But the tide at any given moment, is at different heights in different parts of the ocean.

Water being a bad conductor of heat, the temperature of the sea changes much less suddenly than that of the atmosphere, and is by no means subject to such extremes as the latter. The temperature of the sea never, in any latitude, exceeds 86 or 87 degrees of Fahrenheit.

The existence of banks or shallows have a local effect in diminishing the temperature of the ocean, but the great agents in modifying it are currents, which mingle together, or change the locality, of waters of different regions. Thus the gulfstream, as it is called, which sets into the gulf of Mexico from the equatorial regions, is much warmer than the neighbouring parts of the sea; the current of Chili is just the reverse, being in its progress from the higher to the equatorial latitudes, from whence it passes across the wide Pacifick, and carries the warmth which is thus acquired, again to the higher latitudes, on reaching the western borders of that ocean.

There are three kinds of movements constantly going on in the waters of the sea—1. The agitations which its surface undergoes by the action of winds—2. Tides, which are the result of the attraction between the earth and the sun and moon—3. Currents, which arise from different causes, some of them existing within the element itself.

The influence of the moon in producing the tides, is commonly supposed to be greater than that of the sun, and evidently governs the time of high water. As the moon crosses the meridian of a place about every twenty-four hours and fifty minutes, the sea, in that space of time, ebbs twice and flows twice, in most parts of the world. In large portions of the Pacifick Ocean, however, as well as in certain other localities, the tides are exempt from the lunar influence. At Tahita and the Georgian group, near the centre of the Pacifick Ocean, the tide rises but one or two feet, and it is high water at noon and midnight throughout the year, and this too, in the very region where the established theory would lead us to expect the lunar tides to be the most regular and powerful. The tides upon the coast of Gautimala, in the Caribbean sea, afford a similar exception. These facts serve to show that the *modus operandi* of the causes which produce tides, is not thoroughly understood.

The impediments created by shallows in the ocean, and by the shores, bays, gulfs, and promontories of islands and continents are such, that the tides are greatly delayed, altered both in degree and direction, and in many places so accumulated, that they rise to heights far exceeding what is witnessed in the open ocean On the northern coasts of France, the flow being confined in a channel, rises to a surprising height; at St.

Maloes 50 feet. The tide of the German ocean is twelve hours travelling from the mouth of the Thames to London bridge, where it arrives about the time that there is a new tide in the German ocean.

The tide at Chepstow, rises, at high spring tides, 56 feet, and at others from 40 to 50. The tides in the Bay of Fundy are said to rise to an equal height.

Currents and winds have an influence either in quickening or retarding the tide, and a powerful wind will sometimes keep a tide out of very narrow channels. On the contrary a strong wind coming from the same quarter as the tide, will sometimes raise it several feet above its usual level.

Currents in the ocean are either constant or occasional. The most remarkable currents are those which continually follow the same direction. These usually follow the course of the great circuits of wind in every ocean, and besides, have a general connexion with each other, so that much of the oceanick fluid is constantly passing from one basin to another.

The waters of the north Atlantick perform a constant circuit in the parallels between the equator and the banks of Newfoundland, of which circuit the concentrated current of the gulf stream forms a conspicuous part, and in the centre of this circuit of current is situated the great field of floating sea-weed called the grassy sea. Its strength is much aided by the current which passes from the Indian Ocean round the Cape of Good Hope, through the south Atlantick, and which, joining the equatorial current, passes to the northwest into the Caribbean sea.

In the north Atlantick a counter circuit is also formed, which passes near the British islands and the coast of Norway, and enters the polar basin, from whence it returns under the name of the polar current, and passing down the coasts of Greenland and Labrador, carries with it, at certain seasons, the floating ice of the polar regions.

The fruit of trees which belong to the American torrid zone is every year deposited on the western coasts of Ireland and Norway; and on the shores of the Hebrides are collected seeds of several plants, the growth of Jamaica, Cuba, and the neighbouring continent. The most striking circumstance, perhaps is that of the wreck of an English vessel, burnt near Jamaica, having been found on the coast of Scotland.

It is estimated by Humboldt, that a floating body, which should receive no impulse from the winds, would require thirteen months from the Canary islands to reach the coast of Caraccas, and ten months to make the tour of the Gulf of Mexico, while forty or fifty days might be sufficient to carry it from the straits of Florida to the banks of Newfoundland; and requiring between two and three years to perform the whole circuit back to the Canary islands, equal to a distance of eleven or twelve thousand miles.

The general features of the currents in the north and south Pacifick resemble those in the Atlantick, except that they are obstructed by numerous archipelagos. A Japanese junk, which had been disabled on that coast, has recently been drifted to the Sandwich islands; and pieces of wreck and other articles from the China sea, are often found by the whale ships in the northern Pacifick.

The existence of *under currents*, different from those on the surface, is highly probable and is supported by the analogy of the atmospherick currents, which traverse immense distances in distinct horizontal strata; but their existence is not distinctly proved except by the drift of the icebergs, which are brought into the margin of the gulf stream, during the spring and summer, by the polar current, which then disappears, and from its greater density, probably becomes an inferiour current, passing to the lower latitudes. From the great depth of the icebergs, it probably continues to act upon them after they arrive within the influence of the warmer current of the gulf stream.

An under current is also supposed to exist in the straits of Gibraltar, where there is a constant influx from the Atlantick through the stream as the wreck of a vessel which was sunk on the Mediterranean side in the strait, is said to have risen again in the Atlantick.

It is common to ascribe the cur-

rents of the ocean wholly to the action of the winds; but, as the waters of the ocean are subject to the same impulses as the superincumbent atmosphere, it is probable that the principal movements of both fluids have their origin in the same causes.

The term *Climate*, expresses that particular combination of temperature and moisture, which exists in the atmosphere of any greater or less extent of country.

The following are the principal circumstances which determine physical climate:—1. The power of the sun's immediate action, which increases in proportion as we approach the equator. 2. Elevation of the ground above the level of the ocean. 3. Position with respect to the great seas, or rather with respect to the great circuits of wind which sweep over those seas and the adjacent countries. 4. Position and direction of chains of mountains. 5. Character of the prevalent winds.

The amount of immediate solar heat depends upon the position of the sun in the ecliptick, which determines the length of the day; and the direction in which the rays fall upon the earth is another important consideration. Bouguer calculated that out of 10,000 rays falling upon the earth's atmosphere, 8,123 arrive at a given point if they come perpendicularly; 7,024 if the angle of direction is 50 degrees; 2,831 if it is 7 degrees, and only 5 if it is horizontal.

By increasing our elevation above the level of the sea, a rapid decrease of temperature will be experienced, till we arrive at the point where constant frost prevails.

The following table from Professor Leslie is designed to show the elevation of the line of perpetual frost in different latitudes:—

Latitude.	Mean temperature at the level of the sea.	Height of curve of congelation.
0	84 Fahr.	15,207 feet.
10	82	14,764
20	78	13,478
30	71	11,484
40	62	9,001
50	53	6,334
60	45	3,818
70	38	1,778
80	33	457
90	32	0

The temperature of the sea has an effect upon the winds which pass over it, and this temperature being more equable than that of the land, tends to equalize the temperature of an island or a maritime country.* The temperature of the ocean, contiguous to any country, also depends much upon the position of that country in relation to the great oceanick currents.

It is the character of the prevailing winds which chiefly, and more immediately, affect the climate of any country situate without the tropicks. The currents of the atmosphere, like those of the ocean, form a system of continued circuits, by which the accumulated warmth of one region is often conveyed to another, and by this means important modifications of climate are produced.

Mountains also affect climate in more ways than one. By causing the condensation of aqueous vapour they occasion copious rains. They also afford shelter from winds; and by their position modify or control the currents of the lower atmosphere, and sometimes occasion great diversities in the climate of countries and places near to each other.

The climate of the United States and Canada strongly illustrate the influence of these causes. The tropical current or trade wind being deflected by the Mexican elevations, enters the great basin of the Mississippi and sweeps freely over the extensive country lying east of the Rocky mountains. Here, by change of latitude, the diurnal motion of the surface becomes less than that of the superincumbent fluid, which therefore necessarily assumes the form of westerly winds, and passes back to the Atlantick, to be in due time again merged in the northeasterly trades. When this tropical current keeps sole possession of the surface, which it often does for days together, extraordinary heat prevails, extending frequently through the entire basin of the St. Lawrence, and sometimes raising the thermometer on the borders of that river, at Montreal, to 98 degrees of Fahrenheit. But in winter, when the locality of this great circuit is changed to a more southern region, and when its current is entirely displaced from the surface of

* See page 175.

the great interiour plateau by the cold winds of the interiour, which come down from the Rocky mountains, or from high latitudes on a course parallel to those mountains, this region becomes subject to all the rigours of a Siberian winter.

The climate of China bears a close resemblance to that of the United States, and the continental and oceanick positions of the two countries are equally analogous. Both countries are subject to the extremes of heat and cold above most others in the same latitudes.

The character of the polar current, and the great quantities of ice which it brings to the northeast coast of America, is supposed to influence the climate of that coast, particularly in the spring months. At Newfoundland, which is in the latitude of Paris, late in the month of June, 1831, the bays and harbours were full of ice.

Owing to the circuitous character of most winds, the temperature of the wind frequently does not conform to the supposed temperature of the quarter from which it blows. Thus at London, during six weeks of the winter of 1831, a north and northeast wind was accompanied by a *thaw*, and a south and southwest wind always by a frost. It should be noted that the great circuit-winds contain, without the limits of the trades, numberless smaller circuits and eddies of every variety of dimensions, which account for the various and opposite directions and apparent instability of the winds in the higher latitudes. In the United States these irregularities are chiefly confined to the surface winds.

The atmosphere is capable of absorbing moisture in proportion to its temperature, and a current of air passing from a colder to a warmer region has therefore a constantly increasing capacity for moisture. This peculiarity necessarily pertains to one portion of each of the great natural circuits of wind, or atmospherick current, in both hemispheres. The necessary consequence is a great scarcity of rain in the regions falling under this portion of the current, and hence those arid deserts which occupy so large a portion of the otherwise most fruitful latitudes.

On examining the map of the world, it may be seen that this scarcity of rain mostly prevails in countries lying upon the eastern borders of the great oceans, and of their atmospherick circuits, and between the 18th and 32d parallels of latitude. On the western borders of the Atlantick, in both the Americas, where the aerial current is passing from the lower to higher latitudes, there are abundant supplies of rain. The same is true also of China and the eastern coast of Africa, and also of the western shores of the Pacifick generally, except as the effect is modified by the misplaced counter current of the Monsoons. But not so on the eastern shores of these oceans, where the atmosphere which forms the extratropical winds, falling in again towards the equator, presents a constant demand for additional moisture, and parches and desolates extensive regions of country.

In the atmospherick basin of the North Atlantick, we have the most striking exhibition of this effect in the great African desert of Sahara. Continuing our survey on the same parallels, we have also the great deserts of Lybia, Egypt, and Arabia, subject for the most part to the same course of the atmospherick currents, and exhibiting the same disastrous effects. In the basin of the south Atlantick we have, on its eastern shore, in South Africa, a barren desert, extending across the same latitudes, and spreading from the shore to the mountains. Over this region prevails a constant southerly wind, being that section of the great southern circuit which is pursuing its way to the tropicks. On the eastern shore of the South Pacifick, in the same latitudes, we have also the coast of Peru with a corresponding section of southerly or circuit wind, a coast which is known to be proverbial for the total absence of rain.

In Egypt the surface winds are periodical, but northerly winds predominate; the south wind in winter being the coldest.

Near the Canary islands, the trade wind blows from N.N.W. to N.E., the medium direction being N. by E.

In the most favourable region for the trades, in the Pacifick, lat. 12° S., lon. 177° E., the prevailing winds, during near four months in the year, blow strong from W.N.W.]

HISTORY AND LAWS OF ENGLAND.

The name of England is derived from a village near Sleswick, called *Angles*, whose population joined the first Saxon freebooters. Egbert called his kingdom Anglesland. Anglesey means England's Island, *ey* in Saxon being island.

The Anglo-Saxons came from the district watered by the Weser and Elbe. It was inhabited by the Saxons and Angles. The Saxons had a nobility called Thanes, or Eoldermen and Eorls, and there were greater and less Thanes. The people were yeomen, or independent farmers; while the mass of the commons were slaves, being bought and sold with the land, and treated like the modern negroes. The wittinage-mot was a sort of annual parliament, for public purposes. There was also a shire-mot twice a year, in which our assizes originated; and a wapontak or hundred-mot. Below all, a tithing of 10 families.

The Celts were the ancestors of the Britons and modern Welsh, Highlanders, and the northern Irish. Of their origin nothing is known; but they were a distinct race from the Goths or Scythians, in language, religion, customs, and person. Their druids had a great affinity to the modern Bramins in ceremonies and faith. The Welsh Archeology mentions the coming of Prydain and his three sons from Gaul; but it seems probable that, at a remote period, the countries were united. May not the Celts have been colonies from Atalantis, mixed subsequently with Phœnicians, Gauls, and Carthaginians?

The Celts, or Cimbri, were the first inhabitants of Britain, and the Welsh are their descendants. The Goths, or Scythians, drove them into their mountains, and the Welsh call themselves Cymri or Coomry. The Highlanders and northern Irish are the same people; but the southern and western Irish are from Gallicia and Carthage, and their language is the same as the Punic. Whitehurst conceives that Ireland was a portion of the ancient Atalantis. The religion of the druids, in many of its details, resembles that of the Hindoos; but the Gauls, or Gallicians of Ireland and the Highlands, were fire-worshippers, and perform ceremonies to Baal, or the Sun, to this day.

Colonel Wilford found, in the books in the Sanscrit, accounts of the White Island, and it is referred to as the residence of Vishnu; and he publishes another tract, descriptive of what is called the Churning of the Sea, such an event as would form the basaltick columns in the north, and as, perhaps, absorbed Atalantis.—*Asiatick Researches.*

The earliest records of the histo ries of this island are the manuscripts and poetry of the Cambrians, who were the aboriginal inhabitants, corroborated by their monuments, consisting of stone erections of temples and altars of worship, as Stonehenge, Aubury, and various cromlechs; and also barrows, or tumuli, for burying the dead, often large and extensive.

These manuscripts show, and the monuments confirm, that, in a very remote age, a people on the Euxine, called Cymry, or Kimri, were conducted to Britain by Hu, called the Mighty; and that his son, Prydain, established laws and a government, and gave his name to the country.

Previously the country was covered with forests, like America at present, and inhabited by bears, wolves, wild boars, foxes, deer, and other wild animals.

The language of the first settlers was the same as that spoken in Wales at this day, of which the Irish, and Erse of the Scotch highlands, are dialects, similar to the Phœnician and Carthaginian, with many Greek words; and the religion was the worship of the sun and fire, such as prevails in the countries near the Euxine.

The simplicity, perfection, and copiousness of the Welsh language, the altars still found in Ireland dedicated to Baal or the sun, the custom in Ireland and the Highlands of passing through fires at Midsummer, practised even to this day, just as among ancient eastern nations, are confirmations.

That Britain formerly joined the continent has been inferred from the similar cliffs of the opposite coasts, of the English channel, and from the

constant encroachments of the sea in still widening the channel.

The descendants of Hu and Prydain maintained the government, according to some writers, till the arrival of some bands of fugitive Trojans, about the years 1100 or 1200 before Christ, under Brutus, who, landing at Totness, established a government; and, at his death left England to his son Leucrine; Wales, to his son Kamber; and Scotland, to his son Albactanus.

This account seems, at first, to have been published by one Geoffrey, a historian, of Monmouth, from an ancient manuscript, said to be brought from Armorica, or Brittany, a colony from Britain. And it was confirmed by others, believed by Shakspeare, who founded on it his tragedy of *Lear*, one of the kings descended from Brutus, by Raleigh, and by Milton; also by Henry VII., who published his pedigree in a direct line from Brutus, in proof of his title to the throne.

In 55, before Christ, Britain was invaded in Kent by Julius Cæsar, who, after marching beyond the Thames, and building Dover Castle, withdrew the Romans; but, in 43 after Christ, the Romans invaded it again, and conquered the whole island, except the mountainous parts of Wales and Scotland.

Britain at that time, according to Cæsar, who wrote as an enemy, was semi-barbarous; but it appears that they had war-chariots and arms, and fought with discipline and bravery, and had a body of priests, called druids and bards, by whom they were chiefly governed in 17 states or principalities.

Cæsar alleged they had assisted the Gauls, with whom he had been at war; but the Welsh chronicles relate, that the British Prince Caswallawn had landed in Gaul, and put 6000 Romans to death, in recovering a princess, named Flur, from Cæsar, to whom he was betrothed.

Claudius, 100 years after, renewed the invasion, partly to employ the turbulent Roman soldiery, and partly owing to the treachery of a British Prince Avarwy, son of Lludd, who invited and assisted the Romans.

About the commencement of the Christian era, the language of the whole Island was probably Celtic, or that now spoken and written in Wales. In the north of Scotland lived a tribe of Norwegian settlers, who, continuing to paint their bodies after the fashion had ceased in the south, were, by the Romans, called *Picti*. The western islands and mountains of Scotland were peopled by a brave and high-spirited race from Ireland; but the Lowlands were occupied by a mongrel race of Scandinavians, Germans, run-away Britons, and others constituting *the Scots*, needy, greedy, and glad to receive aid in their marauding excursions, from the hardy and barbarous Picts, who, it is stated by St. Jerome, were cannibals. Three hundred years before, Ireland had given them a king of the name of Fergus; but their savage annals exhibit little but a succession of assassinations and slaughters.

The Britons, or Cymri, occupied England and Wales, under the names of Leogria and Cambria. And Ireland was peopled by a race who worshipped Baal, or the Sun, and who spoke the language of the Phœnicians and Carthaginians, the same that is spoken in the Highlands in Scotland, and there called Erse or Irish.

Even in these early ages, the Phœnicians and other Mediterranean traders visited Britain for tin, and this metal first gave them an importance to the ancient world. But it seems to be agreed, as a general fact, that when the Trojans were dispersed, on the taking of their city, they colonized in other places, and one Brutus, a Trojan Prince, landed with a fleet of adventurers at Totness, in Devonshire, about the year 1100 B. C. It is then alleged that he conquered the country, and left it to a dynasty, who governed it in different states till the Roman conquest. Shakspeare's *Lear* was one of these kings; Lud, who founded London, is said to be another; and, it is alleged that Brennus, who took and sacked Rome, at the head of a Gaulish army, in 385 B. C., was a British prince of this family.

The Irish claim descent from a colony from Caucasus and Iberia,

who first settled in Gallicia, and fled to Ireland, to escape conquest by Sesostris. Their language is Phœnician and Carthaginian, and they were worshippers of Baal.

When Henry VII. had availed himself of the unpopularity of Richard III. to usurp the sovereignty, he employed a commission of learned Cambrians to prove his grandfather's (Owen Tudor ap Meredith) pedigree. This they effected through 100 generations, up to Brute the Trojan King of Britain. First they traced him to Fychan, Chief-Justice, to Prince Lewelyn, and thence to Coel, King of Britain; whose line they traced to Rhegaw, daughter of Lear, and wife of Duke Henwin; and ten other steps carried Henry back to Brutus, whose name, say they, caused the country to be called Britain. His three sons—Leucrine had Loegria, now England; Kamber had Kambria, now Wales; and Albactanus had Albania, now Scotland. They also proved that, in the 30th degree, he was, on his mother's side, directly descended from Ruthven, or Vortigern.

The druids of Wales were the priests, administrators of justice, poets, and instructers of the people. The bards were the poets, and the most learned among the druids. The Romans and other intruders persecuted them, owing to their great influence over the people. Their colleges were called Bancor, and the youth of Gaul received education at them. They met annually, in a sort of parliament, at Abury, Carn Bre, Stanton-Drew or Druid, Lanidan, in Anglesey, &c.; and latterly at Caer Emrys, or Stonehenge, built by Ambrosius, about 460, on the site of a previous circle. They were fine poets and moralists, but their ideas of causation were superstitious, and they believed in elves, demons, charms, &c. Their moral maxims are equalled by none that ever were composed, and were expressed in triads for ease of memory. Their chief poets were Aneurin, Taliesin, and Merdynn, or Merlin; and many of their productions have high classical merit. The most noted bards were Plenydd, Alawn, and Gwron; and Britain was the source and head of the system. Its ultimate objects were to reform morals and customs, to secure peace, and to exalt virtue. They had three orders—presiding bards, orators or poets, and druids or instructers.

St. Pelagius was a Cambrian of the name of Morgan, and his heresy arose from his mixing some of the tenets of druidism with christianism.

Ban, in Welsh, signified *high*, and *cor*, a circle or choir. Hence, Stonehenge was called Cor Gawr by the Welsh, (or stone-hung, or hanging stones by the Saxons,) and Bancor, or Bangor, was the generic name for a principal church, and they had 8 or 9.

While the Romans governed, Latin was the language of the towns of religion, law, and authority; and hence, when the Romans retired, it retained its ascendancy over the dialects of the nations abandoned.

It is curious that the Welsh Triads mention that Gavran went to sea in search of Gwerddonau Llion, the Green Islands of the sea, in accordance with a popular tradition that a Welsh Prince did sail on a voyage of discovery in an early age.

By the Briton's Triads, Caer-leon-upon-Usk, Caer-Llundain in Lloegr, and Caer-evrawg in Deivr, (York), were then the principal cities. The last, they say, was founded by Evrawg Gadarn, the 6th King of Britain.

The Triads mention Gwidiva, the son of Don, as a great astrologer, such as Woden was of the Don, and this character is there assigned to that god of the Saxons. In another he is described as a man of illusion, and classed with Menew, the son of the three Cries, or Vedas, and with Rhudd Lwni, a giant.

The preservation and publication of the Cambrian records of British history was effected at the sole expense of Owen Jones, a plain furrier of Thames-street and edited by Dr. Owen Pugh.

In the sixth century the district of Gwaelod, between Merioneth and Cardiganshire, containing 16 towns, and the harbour of Gwythns was overwhelmed in a storm, owing to neglect in preserving the ancient embankments of stone, which had been

erected in consequence of former extensive encroachments on the same coast.

Armorica was granted, in 384, to Canon by Maximim, for aid against Gratianus. Cadwallader fled there, and afterwards to Rome, where he became a monk in 680.

The British lady Claudia, to whom Martial addressed two or three of his Epigrams, with others to Linus and Pudens, is supposed to be the very Claudia mentioned with Pudens and Linus, in Paul's second Epistle to Timothy. She is believed, by Cambrian writers, to be of the family of Caractacus, and, perhaps the first British Christian. In 51, Caractacus was taken to Rome; in 62, Paul was at Rome; and, in 67, murdered by Nero; and, in 90, Martial died at 75. Her Cambrian name, as translated, would be Gladys Ruffyth, for Martial addresses her husband as Pudens, and Rufins, on their marriage; and he also addresses two or three of his epigrams to Linus, proving the connexion of the three, all of whom are mentioned by Paul as his friends. No proof more strong can be adduced than these, of the verity of Paul's letters, while the identification of this beautiful Briton, as an early Christian connected with Paul, is a most curious fact.

The Britons had annual meetings at Abury and Stonehenge, where laws were made, and justice administered, and heinous crimes punished, by burning in wicker-baskets. The Saxons had similar meetings of the *Michel-synoth*, or the *Michel-gemote*, or great council; and wittena-gemote, or meeting of wise men.

The name Caledonia is believed to be derived from Gael, or Gael-men, or Gadel-doine, corrupted by the Romans.

The Grampian Hills are famous for a battle between the Scots and Picts, under Galgacus and Agricola, in which the former were defeated with the loss of 100,000 men.

The spot in Anglesea, where Suetonius and his barbarous legions butchered the unoffending Druids, is still shown at a ferry called Porthamel, across the Menai Straits.

The success of Arthur, a British prince, against the Saxons in 12 pitch-battles, is recorded by Hennias, Gildas, and others; independent of Geoffry, of Monmouth, and the romance writers. He is also mentioned in Ossian, as an ally of Fingal. He flourished between 508 and 540. In 1189, Henry II. found his body, and that of his queen (Gueniver) at Glastonbury. He appeared to have been of large stature, and ten wounds were traced in his head, one of which seemed to have killed him.

The ancient Britons shaved the chin—the Saxons wore beards. The Normans shaved close. From 1200 to 1600, beards were generally worn through Europe. The Greek church clergy wear beards; and Romish clergy shave their chins, and part of their heads.

Hunting and fighting were the business of the Thanes and Ceorles. Every freeman was a soldier, and the working classes were slaves under the Saxons.

The Saxons were so called from their battle-axes, or *seaxis*.

The English peasantry were so commonly sold for slaves in Saxon and Norman times, that children were sold in Bristol-market, like cattle, for exportation. Many were sent to Ireland, and others to Scotland.

The British laws were translated into Saxon in 590. Alfred compiled the Saxon common law in 885. Edward the Confessor, promulgated his laws, 1065. Stephen's charter of general liberties, 1136. Henry the Second's confirmation, 1154 and 1175. Magna Charta, by John, 1215. Confirmations, by Henry III., in 1216, 1224, 1237, 1250, and 1264. Forest charter, 1225. By Edw. I., 1297 and 1299. By Edw. III., in 1345 and 1368.

Edmund Ironside and Canute settled their quarrels as all kings ought. They met to fight in single combat in the Isle of Alney, near Gloucester, and, after a few blows, they shook hands and agreed to divide the subject of contest, (the kingdom of England), Edmund taking the south, and Canute the north.

The cryer's "O yes! O yes!" is a corruption of the French "Oyez." listen. And the attendants on the King's *Buffet* are called Beef-eaters. So the White-point, Blanc-nez is

called Blackness. And the gates of Boulogne are called the Bull and Mouth and the Bull and Gate; while the handsome savage, Belle Sauvage, is converted into the Bell and Savage; the French *Needle and Thread* is vulgarly called the Eagle and Child (L'aiguelle et fils.)

The different tribes of Saxon invaders divided England into seven distinct governments or kingdoms, called the *Heptarchy;* between which, wars prevailed for three centuries, till Egbert, of Wessex, in default of issue, united the whole in 827. These kingdoms were Kent, the South, the West, and the East Saxons, Northumbria, the East Angles, and Mercia. Kent, the first, was established by Hengist in 455; and Mercia, the seventh, and the Midland Counties, about 585. Hence, the heptarchy lasted about 243 years, and the kingdom of Kent 372 years.

Previous to the conquest, the crown of England had long been held by a priest-ridden, superstitious, weak prince, Edward the Confessor; brother and successor of Edmund Ironside. Edward had no children; and Edward, a son of Edmund, his nephew and heir-apparent, died in his old age, leaving a son Edgar, under age; while two turbulent sons of his sisters, Harold and Tosti, were all-powerful. He made a will in favour of William, Duke of Normandy, whom he had entertained a few years before at his court. Harold setting aside Edgar, Edmund's son, seized the crown, and hence a division in the country facilitated the conquest by William. Henry I., grandson of William, afterwards married a granddaughter of the superseded Edgar, for the purpose of reconciling claims.

William the Conqueror was seventh in descent from Rollo, the Danish pirate.

The Bayeux tapestry, wrought by Matilda, wife of William the First, representing the circumstances attending the invasion of England, is 214 feet long, and 19 inches wide, divided into compartments, representing the train of events from the signature of the will of the besotted Confessor, down to the crowning of William. This very curious relic is now preserved in the Royal Library, at Paris.

Kings and Queens since the Conquest.

Kings and Queens.	*Born.*	*Began their Reign.*	*Reigned.* Y.	M.	D.	Age
William I.	1027	1066 Oct. 14	20	10	26	60
Will. Rufus	1057	1087 Sept. 9	12	10	24	43
Henry I.	1068	1100 Aug. 2	35	3	29	77
Stephen	1105	1135 Dec. 1	18	10	24	49
Henry II.	1133	1154 Oct. 25	34	8	11	55
Richard I.	1156	1189 July 6	9	0	0	43
John	1165	1199 April 6	17	6	13	50
Henry III.	1207	1216 Oct. 19	56	0	28	65
Edward I.	1239	1272 Nov. 16	34	7	21	67
Edward II.	1284	1307 July 7	19	6	18	43
Edw. III.	1312	1327 Jan. 25	50	4	27	65
Richard II.	1366	1377 June 21	22	3	8	33
Henry IV.	1367	1399 Sep. 29	13	5	20	46
Henry V.	1389	1413 Mar. 20	9	5	11	33
Henry VI.	1421	1422 Aug. 31	38	6	4	49
Edward IV.	1442	1461 Mar. 4	22	1	5	41
Edward V.	1471	1483 April 9	0	2	15	12
Richard III.	1443	1483 June 22	2	2	0	42
Henry VII.	1456	1485 Aug. 22	23	8	0	52
Hen. VIII.	1492	1509 Apr. 22	37	9	6	55
Edward VI.	1537	1547 Jan. 28	6	5	8	15
Mary I.	1516	1553 July 6	5	4	11	42
Elizabeth	1533	1558 Nov. 17	44	4	7	69
James I.	1566	1603 Mar. 24	22	0	3	58
Charles I.	1600	1625 Mar. 27	23	10	3	48
Charles II.	1630	1649 Jan. 30	36	0	7	54
James II.	1633	1685 Feb. 6	4	0	7	67
Mary II.	1662	1689 Feb. 13	5	10	15	32
William III.	1650	1689 Feb. 13	13	0	23	52
Anne	1665	1702 Mar. 8	12	4	24	49
George I.	1660	1714 Aug. 1	12	10	10	67
George II.	1683	1727 June 11	33	4	14	77
George III.	1738	1760 Oct. 25	59	3	4	82
George IV.	1762	1820 Jan. 29	10	4	28	68
William IV.	1764	1830 June 26				

The Normans, or north-men, from whom our English nobility claim descent, were northern pirates, who, about the middle of the 9th century, infested the coasts of England and the English channel, and at length made landing in Neustria, and wasted the country, three times besieging Paris. At length, Charles the Simple, in 912, entered into a treaty with Rollo, their chief, giving him his daughter in marriage, and settling upon him the province then first called Normandy, with the title of duke, requiring him to do homage for it. Rollo was then baptized by the name of Robert, but known to the Normans as Haro, or Ha-Row. He was succeeded by his son, Richard I.; he by Richard II.; he by Robert II., who, by Herleve, or Herlot, a mistress, had the bastard William, who conquered England.

During the Roman conquests, Spaniards and Italians fled to Ireland, and Gauls and Belgians to

Britain; hence, there was always a foreign mixture with the natives, and, to this asylum, afforded to fugitives, is to be ascribed the subsequent Roman invasion.

The Doomsday-book, or register of the lands of the kingdom, was made by five justices, between 1081 and 1086, and is still preserved in the Exchequer.

Our ancient kings used to keep *jouglers*, or minstrels and then jesters, under the Tudors; and James I. converted them into poet-laureates.

Magna Charta provides that fines or amercements shall never destroy a man, and, therefore, all such are unlawful. It saves a freeholder's estate, a merchant's merchandise, a scholar's books, a workman's tools, &c.

By Magna Charta 10*d*. was fixed as the price per day of a cart with two horses, and 1*s*. 2*d*. with three.

Parliaments were fixed by the 14th chapter of Magna Charta, by a pledge to summon archbishops, bishops, abbots, earls, and great barons, and, by the sheriffs, all who held a fief; after 40 days' notice, which was to express the cause; and, by chapter 13, it is provided that no scutage or aid shall be imposed, unless by this common council of the kingdom.

The barons, or tenants in chief, or freeholders, by doomsday-book, were 700; but, being split into small parts, were greater and lesser, all of whom were entitled to sit in parliament: but, in 1307, the latter, or lesser barons, were allowed to choose two representatives; hence called knights of the shire.

Common law is the unwritten law of the country, founded on custom, usage, and maxims derived from common sense; but is varied by written, printed, or statute law, made for the purpose of correcting and defining common law.

Adrian IV. permitted Henry II. to invade Ireland, on condition that he compelled every Irish family to pay a carolus to the Holy See, and held it as a fief of the church.

England was under an interdict from 1207 to 1214. Archbishop Langton absolved King John, on promise that he should restore the charter of Henry I.; and John afterwards yielded his kingdom twice to the Pope. In 1215, the barons took the field at Stamford, under Robert Fitzwalter, Baron of Dunmow, and all deserting John, he met them on June 15, at Runnemede, a meadow between Staines and Windsor, when the great seal was affixed to the charter, and 25 barons were elected to secure its fulfilment, and they were put in possession of the Tower of London. Twelve knights were also appointed to rectify the forest laws. John was so indignant, that he died in October, at Newark, as was said by poison, or of a broken-heart. His son, Henry III., afterwards confirmed them in 1236 and in 1253, in Westminster-hall, with great solemnity. Edward I. did the same, before he could obtain supplies or service. There were, therefore, five charters—one of John, three of Henry, and one of Edward I., the same in spirit, but slightly varied in expression.

No accusation of crime can be lawfully made by the laws of England, except before a grand jury, sworn to secrecy; and 12 must decide that it is true, before the party can be required to answer.

Verdicts of juries must be unanimous, that every one may be responsible to his own conscience and to the parties, and that the decision may be considered as a certainty, not probability.

No English judge can pass a sentence greater than the law prescribes; but he may diminish the extreme severity of the law, as the case requires.

Proof of guilt lies with the accuser, and the accused is not expected to prove a negative. Proof also should be positive, and not presumptive. All doubts are construed favourably to the accused; and the opinions of a judge ought to have no weight with a jury every one of whom ought to think for himself and decide for himself.

Petty juries are *special* for civil cases or for trials of treason, or political offences, and consist of freeholders or leaseholders of certain

estate; or *commons* of smaller estate, for civil or criminal cases. Their verdict should be matter of *certainty*, not probability or possibility; and, of this certainty, every one of the twelve is bound to be satisfied before he consents to the verdict, which is the sole and entire affair of the jury, whatever may be the declared opinion or apparent wishes of the judge or court. All proof of guilt rests with the prosecution; and guilt is not to be inferred if innocency is not proved, for that is often impossible, and never required; while it is of far less consequence that even 99 guilty escape the vengeance of the law, than that one innocent man should suffer by a hasty and erroneous verdict; for, after the verdict of the jury, the law assumes the guilt as matter of certainty, and does not libel the jury by a sentence qualified by any doubt of guilt. The jury are also judges of the criminal intention, as well as of the fact; and they must be satisfied with proof of both before they assent to a verdict, which decides both on the fact and the criminal purpose.

Prothonotories are officers for recording the proceedings or decisions of courts of law.

A solicitor is properly only an attorney, who conducts suits in equity.

The *Posse Commitatus* is the whole male population, called out by the sheriff or two justices; and all not attending are liable to be imprisoned.

The court of *Picpoudre* is formed at all fairs, by the steward, for summary redress of wrongs in the fair.

The king's tribute, or relief, by William I., was, for an earl, 8 warhorses, saddled and bridled, 4 hunters, and 1 palfrey, with armour and weapons. A baron paid half; a vavasor, or squire, his best horse and complete armour; a farmer, his best beast; and tenants, a year's rent.

Magna Charta was a charter for the nobles, extorted from King John; and extended to the people by the petition of right conceded by Charles I., and by the bill of rights, 1688.

The original of Magna Charta, preserved in the British Museum, is 14½ inches broad, and 20½ long. Another copy is 17 by 21.

Fee-farm-rent is a composition paid by a whole borough, or town, to the lord, in lieu of individual claims; and this arrangement produced free boroughs and their representation. Middlesex pays to this day, by the sheriffs, a fee-farm-rent of 300*l.* per annum.

A Heriot comes from the Saxon Heregeat, tribute of weapons.

Titles, customs, &c. in law, are immemorial, even before Edward II., or 1340.

By the custom of gavel-kind, in parts of Kent, an estate is divided among all the sons; and that of an intestate brother, among his brothers. It is disliked by the aristocracy, but much approved by moralists and publicists.

From 1070 till 1362, the business and pleadings of the law courts were in Norman French. The pleas were then in English, and the enrolments in Latin. But, in the age of Cromwell, both were in English; and it was so settled in 1730.

A Feod, or feud, was a grant of land to a vassal, on condition to the lord, as for military service, &c. This was the feudal system.

The King's Title.—Henry the Eighth was the first King of England who assumed the title of Majesty. Before his reign, the Sovereigns were usually addressed "My Liege," and "Your Grace." The latter epithet was originally conferred on Henry the Fourth; "Excellent Grace" was given to Henry the Sixth; "Most High and Mighty Prince," to Edward the Fourth; "Highness" to Henry the Seventh; which last expression, and sometimes "Grace," was used to Henry the Eighth. About the end of this reign, all titles were absorbed by that of "Majesty," with which Francis the First addressed him at their interview in 1520. James the First coupled this title to the present "Sacred," or "Most Excellent Majesty."

Before the union of the Crowns, Britain alone was in general use, in the style of our Sovereigns, to signify England and Wales. Alfred, however, was called "Governor of the Christians of Britain;" Edgar, "Mo-

narch of Britain;" Henry the Second, "King of Britain;" and John, "Rex Britanniarum, King of the Britons."

The royal style settled on the 5th of November, 1800, on the union with Ireland, which was to commence from the first of January, 1801, runs thus:—"George the Third, by the Grace of God, of the United Kingdom of Great Britain and Ireland, King, Defender of the Faith, and the United Church of England and Ireland, on Earth, the Supreme Head."

In Latin, "Georgius Tertius Dei Gratia Britanniarum Rex," &c.; the word *Britanniarum*, which was first introduced on this occasion, being regarded as expressive, under one term, the United Kingdoms of England, Scotland, and Ireland.

Prince is evidently derived from the Latin word *Princeps*, or Chief.

Duke.—This is a title of honour, or nobility, next below a Prince. It is a Roman dignity; and the first Dukes (*Duces*, leaders) were commanders of armies.—Under the latter Emperors, the Governors of provinces were styled *Duces*. When the Goths and Vandals overran the provinces of the Western Empire, they abolished the Roman dignities; but the Franks and others divided all Gaul into Duchies and Counties, and gave the name of Dukes (*Duces*) or Counts (*Comites*), as the case might be, to them respectively.

In England, during the times of the Saxons, the officers and commanders of armies were called Dukes, after the manner of the Romans. After the Conqueror's time, the title lay dormant till the reign of Edward the Third, who created his son Edward (first called the Black Prince) Duke of Cornwall.

Marquis.—(*Marquis*, Fr.; *Marques*, Sp.; *Marchese*, Ital.; *Marggraff*, Sax.; *Markgrave*, Belg.)—A title of honour next below that of Duke, and said to be derived from the Harcommanni, an ancient people who inhabited the *marches* of Brandenburg. It was introduced into England by Richard the Second, who created Robert Vere (Earl of Oxford) Marquis of Dublin. The title is originally French; the Romans were unacquainted with it. Marquises were formerly Governors of frontier towns, or provinces, called *Marches*.

Earl.—This is an English title of nobility next below a Marquis, and above a Viscount. Earls were anciently attendants or associates of the King in his Council and warlike expeditions; as *Countes* (Counts) were of the Magistrates of Rome. Hence Earls are called in Latin *Countes*, and in French *Comtes*. The Germans call them *Graves*, as *Margrave*, &c.; the Saxons *Eorldermen*; the Danes *Eorlas*, and the English *Earls*. William the Norman first made the title hereditary.

Viscount.—This title is used for an order, or dignity, next below an Earl. It was an ancient title as an office, but is a modern one as a dignity, being never mentioned as such before the reign of Henry the Sixth. It is supposed to have been introduced by the Normans.

Baron is derived from the Latin *Baro*, which was used in the pure age of that language for *Vir*, a valiant man. Hence those placed next the King in battle were called *Barones*, as being the bravest of the army; and as Princes frequently rewarded the bravery and fidelity of those about them, the word was used for any noble person who held a fee immediately of the King. Baron signifies in England a Lord, or Peer of the lowest class; or a degree of nobility, next below that of a Viscount, and above that of a Baronet. Barons are Lords of Parliament, and Peers of the Realm.

Lord.—This is a general name for a Peer of England, which is also applied to several offices, as Lord Chancellor, Lord Mayor, &c. It is a Saxon word, but abreviated from two syllables into one; for it was originally *Hlaford*, which, by dropping the aspirate, became *Laford*, and afterwards, by contraction, *Lord*.—"The etymology of this word," says a writer, "is worth observing, for it was composed of *Hlaf*, a loaf of bread, and *Ford*, to give or afford; so that *Hlaford*, now *Lord*, implies a giver of bread; because in those ages, such great men kept extraordinary houses, and fed the poor; for

which reason they were called *givers of bread.*"

Lady.—In former days, when men of large fortune lived constantly at their mansion, or manor-houses, the good ladies, their wives, as constantly served out to the poor weekly, with their own hands, a certain quantity of bread, and were, therefore, called *Lef-days*—two Saxon words, signifying *Bread-giver.* As he practice became less frequent, the words were soon corrupted; and the mistress of the manor is called, to this day, the *Lady*, i. e. *Lęf-day.* As a title of honour, it properly belongs only to the daughters of Earls, and of all higher rank; but custom has made it a term of complaisance for the wives of knights, and all women of eminence or gentility.

Edward II. was murdered in a solitary chamber, now shown at Berkeley castle, with the bed and pillows, and marks of blood on the floor.

Richard II. was killed in a room in Pontrefact castle, now in ruins, but nearly perfect on three sides.

The bedstead and travelling treasury of Richard III. is still shown at Rothley, near Leicester. It was hollow, and full of gold pieces, not discovered till 120 years afterwards. His stone-coffin, and the skull of Wolsey, were for years in possession of Sir R. Phillips.

Edward I. first banished the Jews from England; but Cromwell permitted their return. As they could hold no property in land, in any Christian country, they were the universal exchange brokers, and dealers in money and government funds. They enable all Christian governments to borrow and to carry on wars. The Goldsmidts were the agents of the Pitt administration; and Rothschild, the modern Jew, is necessary to all the governments of Europe, conferring on each, on due security, the monetary strength of the whole.

Magna Charta demanded witnesses before trial; and, since Edward III., the fictitious names of *John Doe* and *Richard Roe* are put into writs, as pretended witnesses!

The power which the House of Commons possesses of granting or withholding subsidies or grants to the crown or executive power—and the indispensable assent of each branch of the British legislature in the enactment of law, which govern the courts of law and bind the people—confer an influence on that body which obliges the crown to compromise with the leaders or majorities, by conferring on them the ministerial direction of the government. Hence, as these parties vacillate, changes of administration take place. Again, as the restoration in 1660 was the act of the people or their leaders, and, as the revolution in 1688 was also the act of the people or their leaders; so the crown, by policy and habit, yields to this influence, and changes of administration are evidences of the fluctuating ascendancy of parties. Since those periods, therefore, the changes have been numerous. The two parties in the aristocracy are the *Whig* and *Tory*—those who would curb the power of the crown, and those who would curb the power of the people. But among the people there are four parties, those who follow the aristocracy as Whig or Tory; those who seek to increase the influence of the people in parliament, and render the House of Commons a real representation, who are called *reformers;* and those who are *republicans.*

The first summonses for calling a parliament, under the Normans, were in the 49th of Henry II.

Chivalry appears to have emanated from the combats in ampitheatres, instituted by the semi-barbarous Romans. With greater propriety, men fought instead of animals; the combats were a species of boxing-matches, in which the parties were covered with armour, and provided with spears, swords, battle-axes, and maces. Tilts, justs, and tournaments occurred on the return of the crusaders from the holy wars. For 3 or 400 years they were the chief amusements of courts, and the successful combatants acquired celebrity, knighthood, and the favour of the ladies; their seconds, or bottle-holders, they called 'squires. When publick combats declined, successful knights travelled in quest of adventures, to correct injustice, and fight

in the cause of the ladies; and the consequent follies gave rise to the novel of Don Quixote.

The revenues of the 193 abbeys, dissolved at the reformation or general plunder, were 2,853,000*l.*, or 15,000*l.* each, on the average. The lands given to court favourites would, at this time, pay half the interest of the publick debt.

At the time of the violent dissolution of the religious houses by Henry VIII., estates left to them, *in trust*, by pious persons, for the poor and sundry charitable purposes, worth a million per annum, and now worth 20 millions, were seized by the crown and granted to the servile parliament, nobility, and courtiers, who, since that time, have continued to enjoy the same.

17,000 acres were added to the New Forest in the reign of William I.

The tyrant, William I., to preserve his game, made it forfeiture of property, and imprisonment to disable a wild beast; and loss of eyes for a stag, buck, or boar. Of these laws, the clergy were zealous promoters; and they protested against ameliorations under Henry III.

The curfew was a law only till the accession of Henry I. Since that time, the 8 o'clock evening-bell has been a custom only. Henry, at the same time, voluntarily proclaimed the first charter of liberties, which was confirmed by Stephen and Henry II., but neglected till extorted from John.

The title of Duke of Clarence is derived from the earldom of Clare, in Suffolk.

The title of Duke of Albemarle is derived from the earldom of Aumerle, or Albemarle, in Upper Normandy.

Fair Rosamond, the favourite of Henry II., had a son by him, William Longspee, earl of Salisbury, who was a constant adherent of his brother, the tyrant John, and a man of great renown in the events of that turbulent age. He died in 1226; but his widow, not less remarkable for her personal deeds, lived till 1263, and died Abbess of Lacock.

From the 12th to the 15th century, the barons of England were so independent of the sovereign, that they often made formal wars on each other; they tried causes, and administered justice in the Barons' Court, in the great hall of their castles, and had prisons within them; and they even coined money. The Earl of Warrene held numerous manors in twelve different counties and the sixth Earl of Douglas used to be attended by 2000 horse. Barons at first sat in parliament to perform a duty as possessors of land belonging to the king; but Richard II. summoned them by writ, without reference to their lands; and made peers by letters patent, a practice which continues to this day.

20*l.* a year was the income of a knight; a baron's, 266*l.* 13*s.* 4*d.*; and, an earl's, 400*l.*, in the 13th century. Their tribute, or relief, was a fourth.

Knights baronets, with male descent, was a contrivance of Cecil, Earl of Salisbury, to raise money for King James to reduce and civilize Ulster. The party applying were required to have 1000*l.* per annum, to be of good birth, and to raise 30 foot-soldiers, and maintain them in Ulster for three years; or, as an equivalent, pay 1000*l.* One hundred soon obtained the title: and the first who applied and got it was Sir Nicholas Bacon, of Redgrave, Suffolk. This title was extended to Scotland, for the purpose of settling Nova Scotia; and Sir Robert Gordone, of Gordon-stone, was the first baronet, in 1625; and these Scotch baronets are now called Baronets of Nova Scotia.

Knights bannerets led their vassals to battle under their own banner; but knights bachelors were those who were commanded by a superiour. The former were expected to bring 100 men into the field.

Esquires were, among the Greeks and Romans, shield-bearers and armour-bearers, and called armiger and scutigerulus, from which last comes the word esquire. A British queen is recorded as marrying the *armigerum*, or esquire of her husband. Under Charlemagne they were called *Schildknappa;* then by the French, *Ecuyer;* Anglicized *Esquire;* and now conferred on all who have a good coat or a clean shirt.

Bachelor was a title of rank in the middle ages, between an esquire and knight, from *Bas Chevalier*.

Villain, in ancient times meant a country labourer.

A boor, in modern language, signifies any unlettered vulgar person; but under the Norman princes, this class, called villains, was divided into vassal boors and free boors; those who were sold with the land, and those who were free, to choose an employer. To this day the distinction prevails in some countries, and particularly in Russia, where the vassal-boors are divided into classes, as boors belonging to the sovereign; mining boors, who are sold with the property; and private boors, who belong to the nobility, and perform the labour on their estates; they amount to 12 or 15 millions.

The three bastard sons of John of Gaunt, by Katharine Swinford, were called Beaufort, from his castle in France, and made Dukes of Somerset and Exeter, and Marquisses and Earls of Dorset.

In 1290, the royal family of Scotland became extinct, and the rights of several competitors were submitted to the arbitration of Edward I., he made his award in favour of John Baliol. The Scots were dissatisfied, and preferred successively William Wallace and Robert Bruce, which led to an invasion and conquest of Scotland by Edward. Fresh disturbances in Scotland led him to assemble an army at Carlisle, where he died, in 1307; but, in 1314, the battle of Bannockburn terminated the war.

The body of Thomas Beaufort, Duke of Exeter, who died in 1427, was found, in 1772, in the ruins of the Abbey of St. Edmondsbury, wrapped in lead. The lead was opened, and the body found fresh. Some brutal workmen stole away the lead, and then threw the corpse into a hole, which they filled up.

Agincourt is a village in Picardy, where Henry V. was intercepted with about 20,000 men, by 100,000 under the Duc d'Alençon, Oct. 25, 1415. The French were defeated with the loss of 10,000 slain, and 14,000 made prisoners, whom Henry barbarously murdered under a false alarm.

The battle of Bannockburn was fought on the 25th of June, 1314, between the Scots, under Robert Bruce, and the English, under the young King, Edward II. The English crossed a rivulet to the attack, but Bruce having dug pits, which he had covered, they fell into them, and were thrown into confusion. The route was complete, and 50,000 English were killed or taken prisoners.

The Cinque or Five Ports of Dover, Sandwich, Romney, Winchelsea, and Rye, as the nearest points to France, were anciently considered as the keys of the kingdom, and therefore put under a Lord Warden.

Saddles were not used till the third century.

Estrays are animals found at large, without owner; and waifs are stolen property, left by felons; both belong to the lord of the manor.

The Essoign-day is the first day of every term; but usage concedes three days as essoign or excuse.

Quit-rent is so called from *white*-rent, being to be paid in silver; which, in other rents, were paid in kind.

The Spanish Armada, for invading England in 1588, consisted of 130 ships, of which 100 were larger than any before built. It conveyed 19,295 soldiers, 10,500 seamen, and 2630 brass cannon. They were to convey an army of 34,000 men from the Scheldt, in flat-bottom boats. The English opposing fleet, of smaller vessels, was about 101 ships. The Armada returned by the Shetland Islands, and not more than half reached the Spanish ports.

The right of Gleaning is founded on the express injunction of the Mosaic law, which Jesus declared he came to fulfil and enforce.

Racks, for extorting confessions, were made of pulleys, cords, thumb-screws, &c., by which the parties were made to confess whatever was wished.

The writs issued in chancery are those which relate to the crown, which used to be kept in a little *bag*; and those relative to the subject kept in a *hamper*; and hence the hanaper-office and petty-bag-office.

A pardon cannot follow an im

peachment by the House of Commons.

The Guelphs succeeded to the English throne by act of parliament, as Protestant descendants of Elizabeth, the daughter of James I. married to Frederic Elector Palatine, whose daughter Sophia married Ernest Augustus, Bishop of Osnaburgh, afterwards Duke of Hanover, who, in 1692, was created ninth Elector of the German Empire.

In passing British laws (if private) a petition for leave is presented, and referred to a committee for leave to bring in the bill: if publick, the bill is moved without leave; but, in the lords, it is referred to two judges to report. After the second reading it goes before a committee, select, or of the whole house. It is then read a third time, and passed; first in one house and then in the other, when the royal assent makes it law.

Bail is security to appear and answer to some accusation; and, by an abuse of law, is in England exacted for claims of debt, but restricted to sums above 25*l*. The vexations of the system render it a source of intolerable oppression. The law refuses bail on sworn charges for treason, murder, manslaughter, felony, and outlawry. Excessive bail is forbidden.

No person can be arrested in a fair except for debts contracted there, or promised there to be paid. This is ancient law, opposed to the turpitude of modern legislation, and the villany of legal practice unrestrained by benevolent legislation.

In England, a male of 12 may take the oath of allegiance; at 14, may consent to marriage, or choose a guardian, or make a will; at 17, may be an executor; and, at 21, is of age. A female, at 12, may consent to a marriage; at 14, may choose a guardian; at 17, may be an executrix; and, at 21, is of age.

By the statutes of the 9th and 13th of William III., it is enacted, that submissions to arbitration may be a rule of any of the courts of record, and equivalent in force to the decision of a jury. These statutes are, however, unavailing, owing to barristers being often made arbiters, by which a decision according to law, and not according to equity, is made. —*Vide Gazelee.*

The first administration of Charles II. was a conciliating mixture of respectable republicans, and his personal adherents while abroad, under Clarendon. It lasted till 1663.

The second was formed under the influence of the Duke of York, a zealous Papist, and lasted till 1670.

The third, called the *Cabal*, from the initials of their names—Clifford, Arlington, Buckingham, Ashley, and Lauderdale. Publick crime and unprincipled policy was now at its height, and no man's life or honour was secure.

King James, in 1685, continued, with some additions, the administration of his brother.

King William, in 1689, established the first decided Whig administration. In 1690, he admitted Tories; and, in 1693, the Whigs were restored.

Queen Anne, in 1702, chose a Whig Administration till 1710, consisting of Lord Godolphin, Lord Somers, the Duke of Marlborough, &c. The Tories succeeded, under Harley, Bolingbroke, and the Clarendons.

George I., in 1714, chose a Whig administration; and the Tories were prosecuted.

George II. continued the Whigs in power; but a reforming party, led by Windham, Shippen, Hungerford, and Pitt, now appeared in parliament. At this time, Whigs and Tories were considered as alienated from the interests of the people. In 1739, the Walpole administration yielded to a more popular Whig party; and, in 1744, other Whigs came into power.

In 1754, a mixed administration was formed under the Duke of Newcastle; but, in 1756, a change took place in favour of the Whigs, and the first Pitt became minister.

George III., in 1760, ejected the Whigs and formed a Tory administration under Bute and Jenkinson.

In 1763, Grenville succeeded Bute; and his prosecutions of Wilkes, and plans of taxing America, changed the fortunes of the empire.

In 1765, the Whigs came into power under the Marquis of Rock-

ngham; and, in 1766, a change of men took place, and Mr. Pitt returned to office.

In 1771, the Tory administration of Lord North was formed, and continued through the American war, till 1782, when the Whigs, under the Marquis of Rockingham, came into power. The death of the marquis occasioned a division of the Whigs, and a coalition of Mr. Fox, at the head of one division, with Lord North, at the head of the Tories, in 1783. Late in that year, the administration of the second Pitt was formed, and it continued on Tory principles till the French war in 1801.

In 1801, another Tory administration was formed under Addington.

In 1804, the Pitt administration was restored. Early in 1806 Pitt died, and a Whig administration succeeded under Mr. Fox; but he dying in September, a Tory administration, under Perceval and Eldon, succeeded in the February following. Perceval was shot in 1812; but the same administration was continued by George IV., under Liverpool, till Liverpool's death, in 1827.

A mixed administration succeeded of Whigs and Tories under Canning, who died in the same year; and was succeeded by Lord Goderich and a Tory party, and replaced, in 1828, by the Duke of Wellington, who, in 1830 was succeeded by Earl Grey and the Whigs.

The Act of Union with Scotland was the 5th of Anne, cap. 8, and consisted of 25 articles, one of which provides, that the land-tax of Scotland shall be but in a fixed proportion to that of England.

The battle of Culloden, in which the Guelphs, under William Duke of Cumberland, defeated the last of the Stuarts, took place in April, 1745, near Inverness. Nearly 3000 of the Scots were killed on the field, or barbarously slaughtered afterwards in the pursuit; while the executioner made terrible examples of many others. Prince Charles, after wandering as a fugitive, and experiencing many romantick adventures, escaped to France, and died at Rome, in 1788.

The *Juges de Paix*, or Justices of the Peace, in France, amount to several thousand, and are chiefly lawyers, with small salaries. They decide petty cases of property, besides keeping the peace, and, in other respects, their functions resemble those of English Justices of the Peace, with this incalculable and exemplary advantage, that no action can be maintained in any court, till the *Juge de Paix* has certified that he has heard the parties, and finds it impossible to reconcile the difference.

By the salique law in France, no female can succeed to the throne.

The word *writ* is derived from the Saxon, *writan*, to write.

De facto is applied to actual possession, and *de jure*, to right.

A Hindoo jury, agreeable to ancient custom, consists of five persons, chosen from among the elders; two by the plaintiff, two by the defendant, and the fifth by the administrator of justice.

Twelve persons, assembled for an unlawful purpose, constitute a riotous assembly.

The number of barristers, in 1831, was 1132, whose fees constituted one fourth of the whole expenses of lawsuits; conveyancers and pleaders, 132; London attorneys, 9342; country attorneys, 2742; total number of lawyers in England and Wales, 13,348, being 453 more than there were on the 1st January, 1830. For the 10 years ending 1830, the attorneys paid, in duties on articles of clerkship, admissions, and yearly certificates, nearly 100,000*l.* sterling.

The wall of Adrian and Severus, built to prevent the eruptions of the Scots and Picts, extended from the Tyne to Solway frith, and was 80 miles long, 12 feet high, and 8 in thickness, with watch-towers.

The Romans divided Britain into four provinces:—

1. Wales, called *Britannia.*

2. South of the Thames, called *Britannia prima.*

3. The counties from the Thames to the parallel of the Humber and Mersey, called *Flavia Cæsariensis.* And,

4. The Northern Counties, called *Maxima Cæsariensis.*

They also occupied Scotland to

the parallel of the Forth and Clyde, called Valentia. And further north, in the eastern half, were the *Picti*; and, in the western, the *Scoti*; who were identified with Hibernia or Scotia.

In 207, Severus kept the imperial court at *Eboracum*, now York; and, in 312, the Emperor Constantine was born at York, his mother (Helena) being understood to be his father's mistress, and an inn-keeper's daughter at Colchester; for his father married another in her lifetime.

In religion the Britons were Deists, or disciples of the druids; the Romans introduced the gods of the Grecian Mythology; the Saxons were idolaters, and called the days of the week after the objects and gods of their worship. In 597, Pope Gregory sent Augustine to preach christianity in the south, and Paulinus in the north. It spread till Adelfrid, King of Deiri, or Northumbria, which included *Maxima Cæsariensis*, sustained the Saxon religion, and made conquests on all sides, slaying no less than 1200 monks in a battle near Chester. Being afterwards defeated and succeeded by Edwin, he became a convert to Paulinus; and, after struggles for a century, christianity prevailed.

The Trojan princes were contemporaneous with the British princes about 1000 years. The Romans governed 400; the Saxons about 600; and the Norman succession about 765 years to this time.

Wales continued a separate sovereignty till Edward I., in 1283; and Scotland till its king succeeded of right to both kingdoms in 1603. Ireland was invaded by Henry II. in 1172, but never quite conquered till the time of Cromwell. The Legislatures of England and Scotland, were united in 1706; and, of Great Britain and Ireland, in 1800.

The wars in France, in which England was involved for nearly two centuries, arose from the Dukes of Normandy being Kings of England. They held Normandy under fief granted to Rollo, and were too powerful for their lord. Intermarrying too in the French court, they acquired titles to the French crown, which France opposed; and, hence, wars to drive them out of Normandy on the French side, and wars of encroachment on the other side. The English princes gained bloody victories at Cressy, Poictiers, and Agincourt; but they were finally driven out of France in the reign of Henry VI., and lost Calais, by surprise, in the reign of Mary. It was to the English people a fortunate loss; but the rival policy of the two governments have, even since then, caused half as many years of war as of peace.

Wat Tyler's rebellion took place in 1389, and Jack Cade's in 1450. Both began in Kent, were very fatal to London, and terminated by the death of their leaders. One paved the way for the dethronement of Richard II., by his cousin, Henry Duke of Lancaster; and the other to the destruction of Henry VI., and the House of Lancaster, or the Red Roses, by their cousins of the House of York, or the White Roses. The first battle was at St. Albans, in 1455, and the last at Tewkesbury, in 1471; and, in the 16 years, above 30 great battles were fought, the country half depopulated, and nearly the whole of the nobility exterminated.

In this war the nobles, to seduce their vassals to join their standards, emancipated them; and, in 30 years after, the statute of alienations enabled the commoners to purchase land, and gave a new character to society.

The wars of the White and Red Roses arose thus. Edward III. had three sons, the Prince of Wales, the Duke of York, and the Duke of Lancaster; each of whom had sons. The Prince of Wales died before him; and he was succeeded, of right, by his minor grandson, Richard II., who became unpopular, and banished his cousin, Henry of Lancaster. Henry returned, headed the malcontents, who, on dethroning Richard, made Henry king, in prejudice of the Duke of York and his family, who yielded to the succession of Henry V. and VI. The latter married Margaret of Anjou, who quarrelled with the then Duke of York, grandson of Edward III.; a contest ensued, and the duke, and one of his sons, were killed at Wakefield. His sons fled, found partizans, an

the war continued till the Lancastrians were destroyed; and the brothers, Edward IV. and Richard III., successively filled the throne. Henry VII., who killed Richard in 1485, was great grandson to Lionel, a fourth son of Edward III.; and his mother was widow of Henry V., and had him by a second husband, of the name of Tudor; but, to remove doubts, he married the daughter of Edward IV., and, though he behaved very ill to her, had by her two sons, Arthur, who died before him, and Henry the Eighth Henry had also a daughter Margaret, who was married to the King of Scotland; and, on his grand-children dying without issue, her descendant, James VI. of Scotland, succeeded to the crown as James I. of England; and, from a daughter of his, there descended the House of Hanover.

The male line of the Stuarts in the fourth descent were set aside by act of parliament at the revolution, owing to their being Catholicks. But, in 1715 and 1745, the son and grandson of James II. made vigorous efforts to recover their hereditary rights. In those years they landed in Scotland, and marched into England; but the first was defeated near Preston, and the second, after retreating from Derby, was defeated at Culloden, on the 16th of April, 1746. Both victories were followed by numerous vindictive executions, and the victory at Culloden by a military butchery little creditable to the powers of the time. This male line is now extinct.

The first coinage in England was under the Romans, at *Camulodunum*, or Colchester; and forty varieties of it are to be found in cabinets. The Britons had no coinage, and, as a substitute for gross barter, paid metal by weight.

In 628, the first stone church was built by Edwin, King of Northumbria, at York, which soon after was covered with lead, and then glazed. Till then, houses and buildings were of wood, or plaster or mud. The building of Wearmouth Abbey soon after led to the bringing of glassmakers from the continent.

Rents, down to the conquest, and chiefly afterwards, were paid in kind,—as in honey, bread, ale, oxen, sheep, poultry, cheese, butter, and fish, equal to a 15th or 20th of the produce.

Edwin, King of Northumbria, in the 7th century was the precursor of Alfred in the 9th, and an exemplary improver and ameliorator. His coinage is still in existence; and, though he improved Yorkshire, yet, so late as the reign of Edward III., there was no recorded town in the now saturated county of Lancashire.

The pound sterling was, in Saxon times, a pound troy of silver, and a shilling its twentieth, consequently above three times as large as at present.

Wakes and annual feasts were established by the Saxons, in celebration of the Saint's day of their parish church; and market-towns were then designated as such.

Originally juries were 12 men, who, on oath, certified their belief of innocence. Then, in formal trials, they were the persons present; and, in time, fixed at 12.

After the battle of Hastings, a list was taken of William's chiefs, amounting to 629, and called the Battle Roll; among whom the lands and distinctions of the followers of Harold were distributed. The northern counties held out; and York was defended, but taken, its defenders put to death, and the whole country devastated, many ancient towns being utterly destroyed.

The division of the kingdom into counties, hundreds, and tithings, is ascribed to Alfred; but there is evidence that some counties bore their names, and had those divisions 150 years earlier.

The tithing meant every 10 families; and the hundred 10 tithings, governed by a head constable or bailiff, who held courts for the trial of causes; and the hundred is still liable for damages by unlawful acts.

Alfred also was said to be the contriver of trial by jury, but we have evidence of such trials long before his time. In a cause tried at Hawarden, in Flintshire, nearly a century before Alfred, we have a list of the twelve jurors, confirmed too by the fact that the descendants of one

of them, called Corbyn of the Gate, still preserve their name and residence at a spot in the parish, called the Gate.

It is more probable that Alfred better regulated all these legal provisions, and perhaps the divisions of parishes also, of which the earliest list is that of Pope Nicholas, who, in 1291, ordered an account of the value of all English benefices to be taken, and which is still preserved.

Doomsday-book, or Dom-boc, was an account of a survey of all the lands of the kingdom, taken by the survey of commissioners and the labour of six years. It was lately printed from the original, still preserved at Westminster. It divides the land into oxgangs or bovates of 12 or 15 acres; virgates of 40 acres; carucates of 8 oxgangs, or 100 acres; and hides of about 120 acres, or more.

Danegeld was a land-tax imposed by Ethelred, to enable him to expel the Danes, but retained after.

In Doomsday-book a carucate, or 100 acres, was valued at only 32*d.*, and 4 at 10*s.*; and sometimes at only 8*s.*

It appears that the annual revenue of the crown lands, between the Mersey and the Ribble, was, in the reign of Edward the Confessor, but 149*l.* 16*s.* 10*d.*; and, taken as crown-lands at 10 times too little, and money at 100 times greater worth, the whole was under 150,000*l.*; the same tract, as returned under the property-tax in 1814, was worth 2,569,761*l.*

The Conqueror gave 398 manors to Roger de Poitou, who built Lancaster and other castles; but rebelling against the tyrant, the whole were given to his son, William Rufus. They constitute the Duchy of Lancaster Estates, but are now much curtailed; hence arose the great power of the Dukes of Lancaster.

Edward III. made a levy of shipping to convey his army to France, in 1338; and assessed London, 25 ships and 662 men; Bristol 24 ships, and 600 men; Hull 16 ships and 466 men; Portsmouth 5 ships and 96 men; and Liverpool 1 bark and 6 men. For the kingdom, 700 ships and 14,141 men.

When Charles I. levied ship-money, in 1636, he assessed London 7 ships of 4000 tons, and 1560 men; Yorkshire, 2 ships of 600 tons, or 12,000*l.*; Bristol, 1 ship of 100 tons, or 1000*l.*; Lancashire, 1 ship of 400 tons, or 1000*l.*; Hull, 140*l.* towards Yorkshire; and Liverpool 25*l.* towards 1000*l.* for Lancashire.

At the Reformation, from 1538 to 1544, Henry the Eighth unmercifully dissolved and seized on the revenues of 645 monasteries, 375 convents, 96 colleges, 2374 chantries and free chapels, and 110 hospitals; giving the possessors a trifling annuity or simple donation. The proceeds were nearly 5 millions sterling, or 50 millions in our present money; and their estates he lavished among his favourites and courtiers, sending all opponents to the stake or the block.

The *Book of Innocent Sunday Sports*, liberally published by James I., on the principle that Sunday is a Christian festival, so offended the Puritans, that its sanction by Charles I. was a primary cause of the civil wars. The Puritans regarded Sunday as the Saturday of the Mosaick law, and adopting a Catholick festival as the real sabbath, insisted on keeping Sunday, the first day, just as the Jews keep Saturday, the *seventh* day, or the ordained sabbath of the fourth commandment. The liberal views of James and Charles did not however, suit the religious prejudices of that day.

The first clothing fabricks in England were made in the reign of Edward III., and called Kendal cloth and Halifax cloth.

In 1253, wheat sold at 2*s.* 6*d.* per quarter; in 1272, a labourer got 1½*d.* per day; and a harvest man 2*d.* In 1256, brewers sold 3 gallons of beer for 1*d.* In 1248, the king paid 18*s.* 4*d.* for 37 sheep, or 6*d.* each.

In 1300, wheat and barley fetched 3*s.* 4*d.*, and oats 1*s.* 8*d.* per quarter; a cow, 6*s.*; a fat sheep, 1*s.*; a hen, 1½*d.*; and a pair of shoes 4*d.* Labour from 1½*d.* to 2*d.* per day

In 1314, parliament fixed the price of a fat ox at 16*s.*; a cow, 12*s.*; a fat hog, 3*s.* 4*d.*; a sheep, 1*s.* 2*d.*; a couple of chickens, 1*d.*; a goose, 2½*d.*; and eggs, ½*d.* per dozen. Arable land, in Kent, let from 3*d.* to 6*d* per acre.

pasture at 1*d.*; and meadow from 4*d.* to 10*d.*

In the middle of the 14th century, wine was 4*d.* per gallon; wool was 2*s.* per stone; Kendal cloth, from 3*s.* 4*d.* to 5*s.* per piece; wheat, from 4*s.* to 6*s.* per quarter. In 1500, oats were 2*s.* per quarter, and wheat 6*s.*; ale, 2*d.* per gallon. Labour, 2½*d.* to 3½*d.* per day.

In the 16th century, wheat averaged 21*s.*; and labour 8*d.* per day. During the civil wars, wheat averaged 3*l.* 12*s.* At the Revolution, it was 1*l.* 19*s.* At the Accession of George III., wheat was 33*s.*; barley, 20*s.*; and oats, 15*s.* Labour, 1*s.* to 1*s.* 6*d.* per day.

Before 1300, 11 oz. 2 dwts. of fine silver, and 18 dwts. of alloy, were equal to 20*s.* In 1412, the same was coined into 30*s.*; and, in 1527, into 45*s.* But, in 1545, 6 oz. of silver and 6 of alloy were coined into 48*s.*; in 1546, but 4 of silver and 8 of alloy into 48*s.*; and, in 1551, the 5th of Edward VI., but 3 of silver and 9 of alloy were coined into 72*s.* Elizabeth, in 1560, restored the old standard in 60*s.*; and, in 1601, in 62*s.* It is now 66*s.*, of the same standard.

In the reign of Elizabeth, a house, in a country town, let for 4*s.* or 6*s.* per annum; and the purchase was 5*l.* or 6*l.* Wheat was 1*s.* a bushel; malt and oats, 7*d.*; an ox, 26*s.*; and a fat sheep, 2*s.* 10*d.* Claret, 2½*d.*, and red port, 3*d.* a quart. Labour 4*d.* to 6*d.* a day.

The rental of Scotland, about the period of the Union, was but 317,018*l.*; but, in 1812, it was 6,108,050*l.*, money being five times less valuable, so that improvements had increased it four-fold. The population was under 1 million; but, in 1821, it was 2 millions. The ships had increased, too, from 215 to 3160; and the revenue was, in 1822, 40 times greater than in 1707; or 110,694*l.* and 4,292,567*l.*

The free parts of the English constitution, and the securities of civil liberty, were procured by Magna Charta, in 1216,—by Simon Montford, Earl of Leicester, who obtained the first parliament in 1256, by the concessions of Edward I., in return for subsidies to sustain his wars,—by the Trial by Jury—by the Petition of Right, drawn by Lord Coke,—by the Habeas Corpus Act, drawn by Lord Shaftesbury,—by the Bill of Rights and Act of Settlement, by the Libel Bill of C. J. Fox,—by the Catholick Emancipation Bill,—and, finally, by the Reform Bill of 1831, planned by Lord Grey. The system would be perfect if sheriffs were obliged to summon juries in exact rotation from three districts; if elections were made by ballot, so as to render volition free and bribery useless; and if members of municipal corporations were chosen by the inhabitant house-holders.

The English champions of civil liberty, since its object has been understood, were—Hampden, Pym, Fairfax, Hollis, Coke, Vane, Ludlow, Lilburn, Milton, Sidney, Russell, Marvel, Fletcher, Locke, Burnet, Swift, Holt, Shippen, Glover, Chatham, Wilkes, Camden, Erskine, Cowper, Fox, Sheridan, Whitbread, Paine, Priestley, Price, Tooke, Stanhope, Perry, Belsham, Romilly, Wakefield, and Cartwright.

The best Reading Histories of England are those of Rapin, Hume, Smollet, Henry, Coote, and Lingard. Portions of Clarendon, Turner, Hallam, Belsham, Burnet, Ludlow, Lyttleton, and Spelman. The peculiar histories are Andrews, Enfield, Lloyd, Robertson, Milton, Anderson, Macauley, Plowden, Lawless, Walpole, Guthrie, and Whittaker. Then there are the Chronicles of Beda, Gildas, Geoffrey, Froissart, Baker, Stowe, &c.; besides county and local histories in immense variety.

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ANCIENT HISTORY.

History is a record of the external circumstances, or general results of a course of publick events. Its records were vague, traditionary and erroneous before the invention of letters, about 1500 or 1800 B. C. The earliest records were the Egyptian hieroglyphicks, the first step towards letters, and some monuments, whose objects were described by exaggerated tradition, or, when forgotten, imagined. After the invention of writing, most people kept publick scribes, or chroniclers, but as these records like the London Gazette,

were subservient to the state, so the constant object of servile scribes was to gratify prevailing interests. But even of these, few have descended to our time in a perfect state, and we have, even in them, to depend on the translation of obscure and forgotten tongues, while the whole are mingled with the errours and superstitions of the age and people among whom they were written. Next to the Egyptian hieroglyphicks, the celestial globe, made about 1200, in depicting the heroes of incidents of the previous and passing age, is one of the least suspicious monuments; coins are others. The Chronicles of the Jews, beginning about 1200, the Parian Chronicle, the Histories of Herodotus and Ctesias, and the poems of Homer, are therefore the foundations of early ancient history.

That mankind had attained great perfection in other arts and sciences, before the art of writing or recording was invented, is evident from monuments, especially those in Egypt, and all those connected with astronomy, a science of long observation and profound research. The Zodiack of Tentyra, at Paris, is proved, by the precession of the Equinoxes, to be 5400 years old, and another, at Esnai, indicates much greater age—some French writers say 14,000 years.

Early ancient geography lay in a narrow compass; Greece and Italy were the extent north and west, and the Indies in the East. The Persian Gulf, the Caspian, the Euxine, and the Mediterranean, bounded the countries consecrated in Ancient History, and which extended over 20 degrees of longitude, or about 900 miles, by 12 degrees of latitude, or 1800 miles. Arabia and Egypt lay to the southwest, Chaldea bordered on Arabia, south of the Euphrates: Babylonia lay on that river; Mesopotamia lay between it, on the Tigris; Assyria was in both; Media to the west, and Parthia to the north; Syria lay to the west, and its extent was but 400 miles long, and about 100 wide. They were large only in the eyes of the Greeks, but Bengal, some of the American States, and even France to the Rhine are, either of them, equal to the ancient empires.

The ancients knew as little of the surface of the earth, as the moderns of the interiour; Homer called all barbarous, remote from Greece; and beyond Thrace was the hyperborean region of darkness; and beyond Ethiopia, the region of light inhabited by Pigmies. The whole was surrounded, at the distance of 500 miles, by the River Ocean, by which the Argonauts returned from Colchis in the Black Sea; Eratosthenes and Strabo extended the land farther, and gave limited form to the old continent, but omitted China, and made Lybia, Africa. Orpheus, Herodotus, Pliny, &c., were equally incongruous, and referred every thing to the Mediterranean, as a centre. The priests taught that the Temple of Apollo, at Delphos, was the centre of the world. Beyond the Archipelago and the Levant all was fable, and they believed that the whole plain of the earth might be viewed from any very high mountain. Some philosophers, as Thales, Aristotle, &c., taught that the earth was a sphere, but the vulgar believed the priesthood, who placed their hell under ground, or beyond the sea.

History necessarily begins with the art of recording, or writing, and this art appears to have been first exercised in Greece and the west, about 1500 or 1800 B. C. Like all arts, it doubtless was slow and progressive, and the first authors were, probably, not the inventors. Sensible hieroglyphicks would precede more refined ones; these would be long in taking the form of letters, and these long in being adopted and acquired. Till then, all previous history would be tradition, and the value of tradition, in 1500 or 1800 B. C. may be estimated by its value at this day among the negroes, the American Indians, or the New Hollanders. In England what is the value, even in this age, of any tradition, beyond two or three generations? and, when preserved, it always degenerates into miracle and absurdity.

All well-informed nations appear, after the invention of writing, to have kept chroniclers, who were the priests or astrologers; and these generally prefixed some cosmogony, mingled with claims of antiquity, with popular legends, &c.

The Greeks refer the invention of letters to Cadmus, about 1500, merely

because he introduced them from Phœnicia; the Egyptians to Memnon, about 1800, who probably borrowed them from the Hindoos; and these again improved on those of the Chinese, whose 214 keys, sustained by inflexible customs, were apparently the first transition from hieroglyphicks to generick characters. Each key depends upon the number of strokes in it, and expresses a genus of ideas, while the hieroglyphick origin of the radix of most of them is palpable. It is a vulgar errour that they have 80,000 characters, and they might infer that we also have as many as words, our characters for each word being different, on the same principle as theirs.

Temporary notoriety is always in the inverse ratio of permanent celebrity. That which strikes the vulgar and ignorant, is not calculated to endure the cool examination of intelligence; and that which satisfies the intelligent few, is not understood by the vulgar multitude. Every seven or ten years has its vulgar prodigy, but the pantheon of Universal History rejects all these popular idols, and consecrates none but truly original minds, applied to subjects of substantial and universal interest.

The earliest known chronicles are those of the Chinese, Hindoos, Jews, and perhaps those of the Irish nation. Their imperfect knowledge of physicks, their general recognition of astrology, and their being in the hands of the priests, have filled them with fables. Some natural facts enable us, however, to infer that sciences, the fruit of leisure, wealth, and power, existed; and thus we find, that the Chinese record an eclipse in the year 2800 B. C., and a general conjunction of the planets in 900 B. C.; we find, also, that the Hindoos record eclipses 3180 years before the Christian era; also, that the Persians describe positions of stars in the equinoxes 3000 B. C.; that Alexander found at Babylon celestial observations for 1902 years, in 330 B. C.; and the Egyptians claimed observations for 480,000 years, which, taken as the astronomical period of days, would be 1500 years. These recorded observations have been examined by modern tables, corrected by refined theories and they exactly agree. There is, therefore, no doubt or question that these nations were astronomers 3000 B. C., of course, also, they *wrote* their observations; and hence the bases of Grecian history, founded on the story of Cadmus, &c. must be false.

Fohee formed the Chinese code between 2900 and 2500 B. C. Confucius, their moral teacher, flourished about 600 B. C.

The Hindoos begin the creation as a mere astronomical epoch, when all the planets were in Aries, or nearly 2000 million of years since; and then, taking in the motion of the nodes and apsides, they extend it to 4320 millions, which they call a *Calpa*, or day of Brahma. The *Yug* is a period which brings the sun and moon only into the same situation in the first of Aries, or in every 4,320,000 years, an entire Calpa being 1000 Yugs. Then 100 Calpas are considered by the priest as the life of Brahma, 50 of which have expired. A Manwantera, or 306,720,000 years, is 71 Yugs of 4,320,000 years each, and the world is now in the 28th of the Satya Yug, and 7th Manwantera of 14.

A vicala of time is 6 respirations, or 18 seconds, and 60 vicalas are a *danda*, or 18 minutes. A sidereal year is a day of the gods.

Moses, the inspired author of the Book of Genesis, fixes the date of the creation 4004 B. C.

The birth of Abraham was, by the Vulgate, about 1996 B. C.; but if 430, instead of 215, be taken for the sojourn in Egypt, then his birth was in 2211. The epoch of the Deluge depends on the time assigned to the tenth and eleventh chapters. The Septuagint gives about 1100 years, and Josephus 850. The former then would fix the deluge about 3300, or 1000 years before Jerome's Vulgate. An astronomical cause would carry it back another 600 or 700 years, or to 3900, or 4000 B. C. the period assigned by the Vulgate for the epoch of Adam. The Vulgate Chronology embarrasses every thing, but the Septuagint, Josephus, and the Samaritan version, accord far better with all other ancient history.

As the Jews were ignorant of

chronology, the guesses of commentators lead to many discrepancies. The Septuagint, no mean authority, supported in a great degree by Josephus and the Samaritan version, assigns to the period in the 10th and 11th of Genesis, from the Deluge

to Abraham .. .	*Years* 1257
from Abraham to Jacob ..	290
Sojourn in Egypt per Exodus	430
Departure to Solomon .	873
Solomon to Christ .	1156
	3906

instead of 2348, by the Vulgate. Taken thus, the Jewish history embraces all the demands of the astronomical records, and the combined pretensions of general ancient history, while 1831 added to 3906, gives 5737 years since the deluge. Then, if we look for the physical cause, it will be found that the Perihelion, now in 10 degrees of Capricorn, (having a period of 20,900 years,) crossed the Equator 5800 years ago, when the translation of the ocean from the northern to the southern hemisphere, would necessarily produce those wrecks of countries, and great changes which the record implies, for all history concurs in describing a deluge, and science demands its recurrence every 10,450 years.

Diodorus Siculus, Tacitus, Celsus, the Emperor Julian, &c., describe the Jews as Cretans, who settled in Idumea, so called from Mount Ida, in Crete, and hence the name of Judea. They also record, that a contagious leprosy breaking out in Egypt, Amenophis and Ramesis drove all the deceased into the deserts of Idumea, where their chief was Moies, a former priest of Osiris, and under his institutions they finally settled themselves in Judea. Their exclusive ordinations and tenacity in maintaining them, drew on them the special hatred of the various ambitious conquerors of the East; and the Romans, in particular, exterminated them with remorseless cruelty, till they expelled them from the district, and made them unintentionally, as itinerant traders, in general connexion, the merchants and money-dealers of the whole world. Their present numbers in all countries must be immense. They are estimated at 4 millions in Europe, 2 in America, 6 in Africa, and 12 in Asia.

The modern Jews profess to date from the creation, but this confounds all chronology and history. But if, which is far more probable, their epoch was the deluge, then, as the year 1831 is their year 5591, so the epoch of the deluge would be 3760 B. C., instead of 2348, as adopted by Usher, &c. This would expand the Jewish chronology, so as to embrace the pretensions of ancient history in general, and accord with ancient astronomical observations; while, as the Perihelion crossed the equator in 3970, we should have a physical cause for an event which all history confusedly records, and of which the earth's surface affords incontestible proofs. The variation of 210 years would arise partly from the waters, extending variously and retiring variously. The extension of 15 or 1600 years is justified by conferring a suitable period on the great events recorded in the 10th and 11th chapters of Genesis, to all of which, the received chronology assigns but 100 years.

The year of the world, by the Alexandrian and Abyssinian accounts in 1831, is 7323. But the Jewish reckoning is 5591, doubtless from the flood. It is also 4932 of the Hindoo Calilug.

The chronology of Newton is not insisted on. He fixes the foundations of Argos and Athens in 1080; but the received chronology assigns 1856 to the first, and 1556 to the second. Minos reigned, in Crete, in 1400; and Theseus, in Attica, in 1234. Orpheus flourished, about 1280; and the Trojan war lasted from 1193 to 1184. Homer and Hesiod lived about 900, and the Olympiads began in 776. The Romans destroyed the independence of Greece by the taking of Corinth in 147 B. C., and in the second year of the 158th Olympiad.

All systems of chronology agree that Cyrus took Babylon in 538 B. C.

The Jabal, Jubul, and Tubal-cain, of Genesis appear to be similar characters to the Pan, Apollo, and Vulcan, of the Greek Mythology. Lamech, their father, and the son of

Mathusael, or Methuselah, was descended from Cain, by chap. iv., and from Seth, by chap. v., which latter makes Lamech the father of Noah, consequently the fathers of the arts, as Noah was their brother, were drowned in their brother's flood.

The Jews were of three parties, the Hierosolymites or people of Jerusalem, who claimed to have the only temple; the Samaritans, who occupied the district of the ten dispersed tribes, and had a temple of their own, and their own version of the scriptures; the Hellenist, or Greek and Egyptian Jews, who had a temple at Bubastis, called the Onion.

It happened that no Greek writer quoted the Jews or their histories; and Josephus assigns, as a reason, that Theopompus, a Greek historian, who proposed to notice them, went mad, and discovered his crime in a dream; and that Theodectus, a great dramatist, who noticed them, was struck blind, and recovered his sight only by penance. Other Greek writers therefore took warning!

Berosus, an ancient Chaldean, relates that Xixutor, *tenth* King of Chaldea, was warned by the god of the country to build himself an ark, to escape a deluge. Its length was 5 stadia, and width 2, *i. e.* 3000 feet and 1200 feet. He launched it on the Euxine, and took in his relations, and birds and beasts. The flood abated and his vessel settled on Ararat; before which, Berosus relates the particulars of his sending forth birds. This account was probably copied from the Jews. The Jewish ark was 300 cubits by 50, and, if great cubits of 11 feet, 3300 feet by 550, and 330 feet high.

Buffon thinks that the Grecian and Hebrew deluges were the same, and arose from the Atlantick and Bosphorus bursting into the valley of the Mediterranean. In truth, the Black Sea appears to have drained the channel, which anciently ran from the Caspian to the Baltick; and Dr. Clarke insists, at length, on the certainty of this rupture between the Black Sea and the sea of Marmora.

Sir W. Jones believes Bacchus to be the Rama of the Hindoos, a great conqueror, law-giver, and improver of navigation and commerce. The Greeks called him the god of Wine.

The Arabs record a flood which destroyed Saba, their capital, and other towns, in early ages. It was caused by the breaking of a vast reservoir, equal to a mountain, built by Saba, and is called the inundation of Al Arem.

The Chinese claim an extreme antiquity; but the reports of their literature coming to us through Popish missionaries and prejudiced travellers, who pervert or mistake, it is difficult to arrive at the truth. Their physiognomy indicates that they are of the Tartar origin, or variety. It seems agreed that Fo-hee, their first emperor, reigned about the year 2950; and, from that time, their histories give a regular succession of emperors and events. Yao, who flourished about the year 2357, is celebrated for his virtues and wisdom, and is said to be the author of his own history, as given in their chronicles, his reign having lasted 102 years.

From Fo-hee to Shun, was 560 years; from Yu to Kie, was 387 years; from Tching-tang to Sheoosin, was 612 years; from Voo-Vang to Nang-Vang, was 808 years; from Nang-Vang to Cong-tee. was 105 years.

The Phœnicians, or the Philistines of the Jewish chronicles, invented writing, arithmetick, weights and measures, navigation, glass-making, and many other important arts.

The Phœnicians extended their trade and language to all the coasts of the Mediterranean, and established colonies at Carthage, Gades, and the coasts of Spain.

Sanchoniathon, the Phœnician historian, who wrote about 1150, calls the first pair Protogenus and Æon, and traces them down to Thoth, the Egyptian Mercury, but does not notice any intervening flood. He relates that the seventh generation discovered the use of iron, which Moses ascribes to Tubal Cain, the son of Lamech, the 7th or 9th generation, and brother of Noah; but Sanchoniathan does not speak of the flood in which, according to Moses, Tubal Cain and Noah's

other brothers, Jubal and Jabal, were drowned.

Sanchoniathon, the earliest profane writer, assigns ten generations like the Jews to the early ages. He calls them Æon, Genos, Phox, Liban, Usou, Halieus, Chrisor, Technites, Agrove, and Amine. As he wrote at Beritus, in Phœnicia, and does not refer to the Jews, he is supposed to have lived before Moses, but the received chronology makes him 200 years later. He quotes the Egyptian Thoth, who lived 800 years before him.

These earliest recorded Names are as under, and merit consideration:—

Sanchoniathon.	*Genesis, chap. iv. & Chronicles.*	*Genesis. chap. v.*
Æon	Adam	Adam
Genos	Cain	Seth
Phox	Enoch	Enos
Liban	Irad	Cainan
Usou	Mehujael	Malialaleel
Halieus	Methusael	Jared
Chrisor	Lamech	Enoch
Technites	Jabal	Methuselah
Agrove	Jubal	Lamech
Amine	Tubal Cain.	Noah.

Ninus and Semiramis were warlike sovereigns of Assyria, who, by large standing armies of nearly two millions of fighting men, overran central Asia to the Indus. Ninus left his wife guardian of his son, and she extended her conquests into Egypt and Ethiopia; but, in an expedition against India, she was totally routed by Strabobates, the king; and, after a reign of 40 years, she resigned to her son. In their time Nineveh was built and adorned, as a rival to Babylon. They flourished about the year 2150. Besides their vast armies, they had 10,600 armed chariots, and fleets of fighting ships; while other kings brought nearly equal forces into the field, and terrible slaughters covered this garden of the world. The empire lasted 1400 years; but, in 771, was overthrown by a conspiracy of three viceroys, who divided it into the three kingdoms of Assyria, Babylon, and Media. Such are the accounts of the Greek and Roman historians. The Assyrian kingdom, 150 years after, was conquered by the others, and Nineveh destroyed.

The name Babel, or Babylon, meant the City of God. The Persians refer its foundation to Tamarath. Alexander found in it celestial observations for 1903 years. Herodotus makes no mention of the Nimrod of the Jews.

The Jews were in possession of Canaan from about 1100, the age of Samuel, and Saul, to 721, when 10 of their tribes were dispersed, and the other two tribes maintained themselves till 587, when the kingdom of Judah was overthrown by Nebuchadnezzar. Cyrus restored them in 536; but they were a province of the Persian empire till 332, and then a province of the kingdom of Syria, till that kingdom merged in the Roman empire, under which they were finally expelled the country in 70, A. C.

Moses, the Jewish legislator, headed them in their departure from Egypt about 1491; the epoch of the building of Thebes, and the introduction of letters by Cadmus.

The Samaritan Jews, or kingdom of Israel, recognised, as the basis of their religion, only the Pentateuch, and rejected the rest, reading the Book of Judges as Apocryphal. The Christians, from the time of the fathers of the Romish church, recognise the whole Jewish history as of divine inspiration.

The Canaan of the twelve tribes extended from lat. 31° 15′ to 33° 5′, or 130 miles long; and, from longitude, 35° to 36° east, or 45 miles wide. The two tribes of Judah and Benjamin were about 40 miles long and 30 wide. Samaria lay 40 miles north of Jerusalem.

The whole kingdom of the Jews lasted only 120 years; of Israel, separately, 246 years longer; and of Judah 370 years; and both were then merged in the Babylonian empire, then in the Persian, the Macedonian, Roman, Saracen, and Turkish empires. Egypt was independent till 569 B. C. from the earliest ages, and then was merged in the same empires.

The Island of Atalantis is described by Plato, in his Timæus, as of vast extent and population, having existed somewhere in the Atlantick, but was swallowed or absorbed by an earthquake. Many Hindoo legends

point to the circumstance; and Whitehurst quotes, in proof, the geology of the coasts of Ireland.

The Arundelian Marbles, or *Marmora Oxoniensis*, were, with other Grecian antiquities, collected by Dr. W. Petty, in the reign of James I., at the expense of the Earl of Arundel. The whole consisted of 37 statues, 128 busts, and 250 inscriptions, besides gems, altars, &c. The Earl's grandson presented the inscriptions to the University of Oxford. Dean Prideaux published them in a folio called *Marmora Oxoniensis;* and other accounts, by Mattaire and Chandler, have since appeared. The Parian Chronicle is in capitals, without spaces or stops. In one of them the parties swear to a treaty "by Earth, Sun, Mars, Martial Minerva, Diana, Hesther Sipylene, Apollo in Pandi, Venus Stralonicus, and all the other gods and goddesses." On the tomb of a Phœnician it is stated that "he and his wife are with the blessed in Elysium;" hence, the doctrine of a future state seems to have been familiar with the early Greeks. It seems to have been engraved about 170 years B. C. The second epoch states as follows:—"Since Deucalion reigned at Parnassus, in Lycorea, Cecrops reigning at Athens, 1310 years." Epoch 4 states, "Since a deluge happened in the days of Deucalion, and he fled from the rains out of Lycorea, taking refuge with Cranaus; and built the Temple of Phyxion and Olympian Jupiter, and offered sacrifices of preservation, 1265 years, Cranaus reigning at Athens." This flood in Thessaly, then, was in 1435 B. C., but the deluge of Moses was 2348; and, hence, there is no reason for confounding those events. Moses died 1452, 17 years before Deucalion's flood. The same inscription also tells us, that the first ship from Egypt arrived in Greece in 1512 B. C., i. e. about 14 years before the Israelites left Egypt.

The Greeks spread from Greece, through all the Islands, to the coasts of Asia Minor, to Sicily, Lower Italy, and on the coasts of the Euxine. In Africa, they founded Cyrene; in Gaul, Marseilles; and to the west, Rhoda and Emporia. The Macedonian conquests extended their language into the interiour of Asia.

Iron was said to have been discovered owing to the forests on Mount Ida being burnt by lightning, about 1500 years B. C. But Moses refers it to Tubal Cain, the son of Lamech, and one of the brothers of Noah, who, with Jubal and Jabal, the other sons of Lamech, must have been drown-in the flood 800 years previously; though Moses speaks of their arts as continuous, and describes them as the fathers of all who practised their arts. The discovery of iron would effect a social revolution, equal to that of gunpowder.

Some suppose that the Canaries are fragments of that extensive island of Atalantis, which Plato, in his Timæus, says was absorbed by the sea, 9000 years before his time. The sea is said to be shallow in that vicinity. Pliny mentions traditions of the irruption of the Atlantick into the basin of the Mediterranean.

The Bacchus of the Greeks had some resemblance to Moses, if they were not the same. Orpheus, about 1200, calls him *Mises*, (saved from the Nile), educates him in Arabia, makes him pass dry through the Red Sea and two rivers in India, command the Sun to stand still, cause wine to spring by striking the ground, and engrave his laws on two tables of marble. The Egyptian histories, cited by Josephus, Clement, Origen, &c., are silent on the subject.

The Assyrian is the earliest recorded empire, that of Bacchus wants records. It began with Ninus, and ended with Sardanapalus. It was united to the Medes, from Arbaces to Astyages, and then to the Persians, from Cyrus to Darius.

The Argonautick expedition to Colchis, in search of the Golden Fleece, under Jason, begins now to be regarded as a fable; and many learned writers doubt whether the Siege of Troy was other than a poetical fiction of Homer. The only circumstance that gives it credence, is Alexander's recognition of it, by his visit to the tomb of Achilles. Others think there was no such poet as Homer, and that his poems were the work of Thales, who first promulgated them in writing.

The Zodiack of Tentyra, now at Paris, is a spiral, beginning with Leo.

and ending with Cancer, in a square of 7 feet 9 inches. It is crossed at right angles by lines, which pass through Taurus and Scorpio, and through Leo and Aquarius; then the Equinoctial and Solstitial points. Hence, a sign and a half gives about 3240 years. But Pisces has since advanced through Aries, so the precession is full 2½ signs, or 2160 × 2½ = 5400 years for the age of this Zodiack, or 3130 B. C., which corresponds exactly with age of the Indian Observatory.

It hence appears that the Zodiacal signs are of extreme antiquity, and that the first in order was Leo. The sphere, and its constellations, with the names of the planets, appear nevertheless to be of Cretan origin, and the author of the nomenclature, palpably, had Cretan and Grecian personages in his mind. All history fixes these personages as living in the ages just preceding the Trojan war, for the constellations do not record that war, or its heroes, but they include Persius, Hercules, the Argonauts, &c. &c. of the immediately preceding age.

The celestial globe was divided into constellations after the age of Persius, and also after the Argonauts, who built Mycenæ, perhaps, about 1200 B. C.

The Ancients assigned the 12 *major Gods and Goddesses to the* 12 *signs of the Zodiack.*

Aries	Minerva
Taurus	Venus
Gemini	Apollo
Cancer	Mercury
Leo	Jupiter
Virgo	Ceres
Libra	Vulcan
Scorpio	Mars
Sagittarius	Diana
Capricorn	Vesta
Aquarius	Juno
Pisces	Neptune

Saturn governed ♒ and ♑
Jupiter ♓ ♐
Mars ♈ ♏
Venus ♉ ♎
Mercury ♊ ♍
The Moon ♋
The Sun ♌

The Egyptian Zodiac commenced with ♌, the sign of the Sun. The Moon, or ♋, precedes it. Mercury, *i. e.* ♊ and ♍, is next to these, corresponding with his elongation. Venus next, *i. e.* ♉ and ♎ each way; then Mars, ♈ and ♏, then Jupiter, ♓ and ♐, and, lastly, Saturn ♒ and ♑.

Crete, or Candia, always deserves to be mentioned with respect, as the nursery of civilization, a circumstance favoured by its insular position, the fineness of its climate, and the fertility of the soil. Among the earliest monarchs were Rhadamanthus and Minos, whose laws and policy were so much praised. The Cretans lost their independence when the lust of conquest was indulged by the Romans, about 50 B. C. In the age of the Trojan war, Crete was said to contain 100 cities, which, a modern traveller says, may all be still traced.

The stars were classed into constellations about the year 1200, for the figures include all the heroes of the previous age, some of the Argonauts, but none of the Trojan heroes. The same systematizer also gave names to the planets, and adopted those of recent celebrity in the Cretan court as Kings; Saturn, Jupiter, Vulcan, &c. Astrology sanctified these names, and poetry soon deified them. Their numerous progeny arose from the ascendancy of these planets at births, and a man born when Jupiter was strongest, and Cancer ascending would be called a son of Jupiter and Latona, or of Jupiter and Diana. The Astrologers were at once the priests, poets, and statesmen; and, hence all the fables and superstitions about these names given to the planets and stars. They afterwards travelled among eastern astronomers and astrologers.

The Greeks had a story that Orion was the son of Hyreus, and formed at his request by Jupiter, Neptune, and Mercury, after he had entertained them, he being old and childless. Orion is named in the Book of Job, which is believed to be of Chaldean origin, and as old as Genesis.

The ancient mythology made Apollo, the Sun, brother of Diana, the Moon, merely because ♌ and ♋ adjoined each other.

The Argonautic expedition, under Jason, to Colchis, took place, if not

a fable, about 1250 B. C. It affords names for constellations.

Saturn appears to have been King of Crete, in whose time *Iron* was discovered on Ida, by the conflagration of its woods. Jupiter was his son, and successor. Mars was a Cretan hero of the same age. Venus was a beautiful Cyprian, who married Vulcan, who wrought the new iron mines, and made iron implements. Mercury was Hermes Trismegistus, to whom the age was indebted for the recent discovery of letters. The Sun, or Baal, had many names, but at this time the name of an accomplished native of Delos, Apollo, was assigned. The Moon, also, had many names, but, in the Cretan Vocabulary, she was called Diana. The virtues and powers ascribed to the planets by astrology were soon, by association, referred to the name and the persons; while superstition, obscure history, priestcraft, and poetry, in 2 or 300 years, raised on this simple basis, the amusing fabrick of the Heathen Mythology. In these ages, even as at this day, in eastern courts, the astrologer was also priest and statesman, and the reigning planet, at the birth of a man, or at the founding of a City or Temple, was the father or genius; hence, the apparent numerous progeny of these gods, and their multiplication in different persons and places.

Many confusions in ancient history were thus created by astrology. Lucian says, that Æsculapius was called the son of Mars, merely because Mars was lord of his ascendant; and so another was the son of Jupiter, because Sagittarius was ascending at his nativity. Cities too had their nativities, and hence the lord of the ascendant was their tutelar deity, and his or her worship adopted in a tangible form. The first stone of a city, or great structure, laid when Cancer was ascending, would render the Moon, as Diana, Cybele, Isis, &c. their future goddess. The hour in which a victory was gained, which founded a nation, was also, to an astrologer, a means of setting a figure, and fixing the lord of the ascendant; and thence the tutelar deity of that nation! and, on this, an astrologer and poet, aided by the celestial globe, and the approaches, and recessions, and aspects of the planets, would raise a story to astonish the vulgar, and all men unacquainted with the art. At this day adepts in astrology set figures, even at the launching of a ship, and pretend to tell its fortune; and, when astrologers were statesmen, and the people reverenced the art, no doubt the astrologers fixed the ruling planet, and the deity of the place, whose name was varied according to the language of the people. Half the mysteries of ancient history, and all those of mythology, may thus be explained. The fables about the heathen gods are such, therefore, only from ignorance of this key, and astrology; and the celestial globe would tell, in a moment, how the gods (*i. e.* the planets,) and the female constellations, and the goddesses, (that is, Venus and the Moon,) and the male constellations, were guilty of so many intrigues, and parents of so many heroes, at a time when astrologers were statesmen, chief-priests, &c.

Astrology perverts and misapplies a plain principle. There is a certain chance that any event may happen. Random guesses would not satisfy, but the stars afforded rules for guessing, and then, by following the rules, the astrologer ceased to guess. But, as a certain number of probable events must happen, so, as the prognosticks were founded on the stars, these were then said to rule the events. What follies and odd things have this mistake created!

Ogyges, about 1856, was the first king of Athens. Cecrops, the next noted king, was an Egyptian, and reigned about 1556. Theseus reigned in 1300.

Cyrus, the founder of the Persian empire, lost his life in a battle with a Scythian tribe, in 529 B. C. But Xenophon says he died in peace.

The chief magistrate of the Athenian republick was called the archon; and, latterly, they were nine in number, chosen annually, and serving as an executive government.

There were nine archons at Athens, and the first was called King; the second Archonte, or Judge; the third Polemarque, or Generalissimo; and

the others, Thesmothetes, or Lawmakers, chosen by ballot.

The Areopagus, or Senate-house, was built on a hill, in 1490 B. C.

The Turks call Athens, Setines. It acquired note about 1508 B. C. and was, for 487 years, under 17 kings. In 594, it became a republick. In 403, it was taken by Lysander, for the Lacedæmonians. In 87, it was taken by Sylla, for the Romans; and, in 1455, by Mahomet II. Its famous buildings were the Areopagus, the Lyceum, the Academy, the Portico, and the Temples. The assured independence of Greece promises its revival in 1830.

Athens was founded by Cecrops, 1556 B. C. Ægeus governed 1283. Theseus, 1235. Codrus, 1091. Medon, 1070. Draco, 623. Solon, 594. Pisistratus, 560. Pericles, 441. Demetrius, 317. Poliorcetes, 300. Taken by Sylla, 86.

Sparta founded by Lelex, 1302 B. C. Lycurgus governed 884. Theopompus, 770. Leonidas, 491.

Corinth built, 1520. Danaus reigned, 1485. Periander, 630.

Argos founded by Inachus in 1856.

Thebes founded by Cadmus, 1493. Œdipus reigned, 1266. Taken by Alexander, 336.

Lacedæmonia and Attica were the most renowned of the Grecian states; the first for military prowess, and the other for naval power, arts, and literature. Lycurgus arranged the severe institutions which gave character to one; and Solon, in 594, established those democratick institutions which drew forth all the genius of the people of the other; but they were too popular to last.

In 431, a dispute between Corinth and Corcyra, or Corfu, led to the interference of Athens and Lacedæmon, and brought on the first Peloponnesian war, in which all the Grecian states were mingled; but, in eight years, it ended in the triumph of Athens. A second struggle ensued; and, in 404, Athens was taken and dismantled.

The retreat of the 10,000 Greeks, under Xenophon, arose thus,—they were mercenaries of Cyrus the younger, and, in marching on Babylon, in 401, his army was defeated; but the Greeks kept in a body, and retreated through Asia to Thrace.

Sparta, so celebrated in Grecian history, was near the modern town of Misitra, in the Morea, but no vestige of it above ground has been visible for some hundred years.

Corinth, one of the most splendid cities in Greece, owed its advantages to commerce; and, to its luxury, we are indebted for the Corinthian order, in which were constructed the Grottos of the Muses, a Theatre and Stadium, a superb Temple to Neptune, and another to Venus.

Thebes, once the celebrated capital of Bœotia, has, by the Turks, been called Stives, and the country is called Stramulippa. Thebes was said to be built by Cadmus, an Egyptian emigrant, who called it after the Egyptian Thebes, and he introduced among the Greeks his alphabet of 16 characters. The fables connected with his history are all derived from a mixture of the superstition of priestcraft, with ignorant mistakes about astrological associations of men with the ruling planets, and aspects of planets in their nativities. The story of Jupiter and the Bull, connected with the early history of this district, means nothing more than Jupiter being in the sign Taurus, probably when Cadmus was born, when he landed, or when he laid the foundation-stone of Thebes, was in some aspect with the planet Venus.

The Amphictyonick Council was a congress of representatives from 13 cities in Greece.

The Greeks adopted their Olympiads in 776 B. C.; and previously their histories are jumbled in confusion.

The Romans had no chronology till a late period; and, hence, no certainty attaches to their history for 3 or 400 years.

The battle of Arbela, which ruined Darius, was fought Oct. 1, 331 B. C.

At the death of Alexander his generals were thus situated:—Perdicas and Leonatus were regents; Antipator and Crateras governed in Greece; Ptolemy held Egypt; Lysymachus had Thrace; Eumenes, Cappadocia, &c. Antigonus, Lycia, and Pen

cestes governed Persia; Python, Media; and Seleucus, Syria and Babylon. They established kingdoms, and some of them founded dynasties; but for the most part were military tyrants, and died violent deaths. The mother, wives, brother, and children of Alexander, were all murdered by them.

The Hindoos recognise the invasion of Alexander under the name of Mahadukoit Kounha, and call him the great robber and murderer.

The brilliant epoch of Grecian history was from about 100 to 300, or the period of Jewish history described by Nehemiah and the Apocrypha. But the history of neither corroborates the other, though so near; and no Greek writer of the classical ages speaks of the achievements of the Jews, though Homer was contemporary with David and Solomon. The art of printing has made nations acquainted with each other, yet the Greeks were travellers.

Rome was founded 753 B. C. by Romulus. Numa Pompilius began to reign 715. Tullus Hostilius, 672. Ancus Martius, 640. Tarquinius Priscus, 616. Servius Tullius, 578. Tarquinius Superbus, 534. First Consuls, 509. Lartius, Dictator, 498. Cincinnatus, Dictator, 456. Sylla, Dictator, 82. Julius Cæsar, Dictator, 48. Octavius, Emperor, 31 B. C. Tiberius, 14 A. C. Caligula, 37. Claudius, 51. Nero, 54. Galba, 68. Otho and Vitellius, 69. Vespasian, 69. Titus, 79. Domitian, 81. Nerva, 96. Trajan, 98. Adrian, 117. Antonius, 138. Commodus, 180. Severus, 193. Caracalla, 211. Alexander, 222. Gordian, 238. Philip, 244. Decius, 249. Gallus, 251. Valerian, 254. Gallienus, 260. Aurelian, 270. Probus, 276. Diocletian, 284. Constantine, 306. Constantius, 337. Julian, 361. Jovian, 363. Division of the Empire, 364, between Valentinian and Valens. Rome and West, under Gratian and Valentinian II., 375. Honorius, 395. Valentinian III., 424. Majorian, 457. Severus, 461. Anathemius, 467. Augustulus, 474. The Western Empire Dissolved, in 476, by Odoacer, King of the Heruli.

Though the Greeks and Romans stigmatized other nations as barbarians, and their misrepresentations are too generally received, yet the aggressions, ambition, and policy of the Romans in playing off nation against nation, and employing one to conquer another, cannot be sufficienly condemned. The union of nations to assert their own independence was just, and a philosopher will not condemn those associations of the northern tribes, which drove their oppressors into Italy, and even followed them there, though it might suit the Romans to call such patriots barbarians. The Romans provoked those attacks, and for all the consequences they alone are to blame.

The fortune of Rome was singular. It was founded by banditti 753 B. C.; from the year 100 B. C. to 300 A. C., the persevering policy of these insatiable bandits ruled the world by the sword; and from 300 to 1500, Rome governed all Europe by spiritual power, which is still acknowledged by half its states, and its language still reigns over all learning even after 2583 years.

The battle of Cannæ, so bloody and so fatal to the Romans, and so useless to the Carthaginians, was fought 216 B. C. Hannibal commanded, on one side, 50,000 Africans, Gauls, and Spaniards; and Paulus Æmilius 88,000 Romans, and not more than 4000 of the Romans escaped. Hannibal sent three bushels of rings of the Roman knights, to Carthage.

Agrarian laws, for the equal division of publick lands among the citizens of Rome, were first passed 486 B. C., and renewed 20 times, but in vain.

40,000 Romans were slain on the Allia, 390 B. C., by the Gauls, under Brennus, a British prince.

There were 7 kings of Rome, from Romulus, 753 B. C., to Tarquin Superbus, 509, when Brutus and Collatinus became consuls.

Carthage, the commercial rival of Tyre, and which, unlike Tyre, foolishly aimed at dominion as well as commerce, was built in the 9th century, B. C. They ravished the dominion of the sea from the Phœnicians, and maintained it for 5 or 600 years. Dido, a Tyrian princess, set-

tled herself at Carthage, owing to differences with her brother Pygmalion, and, upon an isthmus of a Peninsula, which formed a bay, she laid the foundations of Carthage. It was divided into three parts, Byrsa, or the city; Megara, or the suburbs; and Cothon, the port, the entrance to which was but 70 feet broad. The outer harbour was for merchants' shipping, and the inner for ships of war. In 2 or 300 years it was 23 miles round, and contained 700,000 inhabitants; a passage in Plautus proves that their language was identical with the ancient Irish, as it can be read at once by any lettered Irishman. Wealth and property were the only foundations of rank and power, and from this class two chief magistrates and legislators were annually elected. They worshipped Saturn, perhaps, because that planet ruled either at the birth of Dido, or at her landing on the coast; they also worshipped Baal, or the Sun, and Urania, the genius of Astrology. They traded through Africa, round the Mediterranean, and into the Atlantick, for they were masters of the Spanish peninsula. Rome and Carthage quarrelled about their respective ascendency in the Mediterranean, and the first punick war, of 24 years, began in 264 B. C., and the second punick war, of 17 years, began in 218, the third began in 149; and, in 146, Carthage was totally destroyed by Scipio, to his eternal disgrace. Gracchus began to restore it in 122, and in another 200 years it again became a considerable city, but, A. D. 431, it was utterly destroyed by Geneserick, the leader of the Vandals. Besides Spain, and probably Ireland and the Canaries, the Carthaginians held in the Mediterranean, Sardinia, Corsica, Malta, and the Balearick Islands. Their attempt to conquer Sicily diminished their power, and drew on them the fears and jealousy of the Romans. All commercial people have, in like manner, been ruined by a passion for territorial aggrandizement, partly with a view to the corrupting patronage of foreign governments, and partly for the purpose of forcing the sale of their commodities. Of the discoveries and science of the Carthaginians we have no knowledge, because we receive our accounts of them through their inveterate foes, the Roman authors.

Two of the most atrocious acts in the history of human crimes were the siege and destruction of Tyre by Alexander, and of Jerusalem by Titus. Histories which laud such monsters, ought to be consigned to the flames.

Cæsar's Commentaries were written by Hirtius, according to some; and by Oppius, according to others.

Voltaire, in his Philosophihal Dictionary, says that the word *Gauls* was a Roman corruption of the *Welches*.

Nero set fire to Rome on the 19th of July, 64. The fire continued 6 days, and consumed three quarters of that fine city.

Julius Cæsar usurped the supreme power, in 705, of Rome, or 48 B. C.; and, from that time till 475, there were 64 Roman emperors, the last being Augustulus. Their reigns averaged 8 years; and out of the 64, 45 were monsters of crime and vice.

The following was the Fate of the Cæsars, in 300 years.

44 B. C. Julius, assassinated.
14 A. C. Augustus.
37 Tiberius poisoned.
41 Caligula, assassinated.
54 Claudius.
68 Nero, killed himself.
— Galba, murdered.
69 Otho, ditto.
— Vitellius, ditto.
— Vespasian.
81 Titus.
96 Domitian, killed.
98 Nerva.
Trajan.
138 Adrian.
161 Antonius Pius.
180 Marcus Aurelius.
193 Commodus.
— Pertinax, murdered.
— Dedius Julianus, ditto.
210 Severus.
212 Geta, murdered.
217 Caracalla, ditto.
218 Macrenus, ditto.
222 Heliogabulus, ditto.
235 Alexander, ditto.
237 Maximinus, ditto.
238 Balbinus, ditto.
— Pupianus, ditto.

244 Gordians, murdered.
249 Philip, ditto.
251 Decius, ditto.
253 Gallus, ditto.
— Emilanus, ditto.
260 Valerian, ditto.
Gallienus, ditto.
270 Claudius II., died of the plague.
275 Aurelian, murdered.
276 Tacitus, ditto.
— Florianus, ditto.
282 Probus, ditto.
283 Marcus Aurelius, killed by lightning.
284 Numerianus, murdered.
285 Carenus, assassinated.
293 Caurasius, ditto.

What a consequence of undue power! what a picture of depravity in subjects! what a lesson to ambition!

In 305, Diocletian and Maximinus resigned, and thereby escaped the fate of 24 of their immediate predecessors;—but in

310 Maximinus was put to death.
311 Maximinus Galerius died shamefully.
312 Maxentius, drowned.
337 Constantine, died.
340 Constantine II. killed.
350 Constans, murdered.
353 Magnentius, killed himself.
354 Gallus, murdered.
355 Julian, poisoned.
364 Jovian, died.
375 Valentinian, burst an artery.
376 Theodosius, murdered.
378 Valens, burnt.
388 Maximus, killed.
392 Valentinian II. strangled.
394 Eugenius, murdered.
395 Theodosius, died.
The empire was then divided.

Ancient History is considered as ending with the breaking up of the Roman empire in Italy, by the invasions of the northern nations, and the general conspiracy of the various conquered nations. These severally set up for themselves in various governments, which remained unsettled till the age of Charlemagne, from which period authors in general date the commencement of Modern History. Ancient History commenced, therefore, in the obscurity of tradition, between 1800 and 1500 B. C. and ended about the year 400 A. C., about 2000 years; and Modern began with Mahomet, or Charlemagne, and has lasted about 1200 or 1000 years, beginning almost in as great obscurity as ancient history, owing to general ignorance.

MODERN HISTORY.

Modern History is marked chiefly by the extensive conquests of the Mahomedans, or Saracens and Turks, by the resistance of the Christians, and by the wars between the Roman Catholick and the Protestant powers. For one or two centuries, wars always were carried on to preserve a balance of power between the states, and prevent a general and oppressive monarchy. Latterly there have been bloody conflicts about civil liberty, between states free and states under arbitrary government; more recently Russia has appeared at the head of, that northern hive, which, 1500 years ago, overran Europe. In Asia, the Mogul empire was founded by Genghis-Khan and Tamerlane, who overran Asia like Sesostris; but China has maintained its integrity for above 4000 years. ....

The Chinese empire was divided, between 420 A. D. and 581, by an eruption of the Tartars, into the north and southern empires. It was re-united in 581, and so continued till 905, when the Tartars again obtained part of the empire till 1249, and the Moguls governed the whole till 1368. The Tartars were then driven out, and a Chinese dynasty continued till 1644, when the Mantchoo Tartars overran the empire, and, after five reigns, continue under Kia-King, to govern. The last emperor but one, Kien-long, reigned 60 years, in great estimation, at home and abroad, and abdicated in 1796, in favour of his son Kia-King.

The Greeks knew nothing of the Chinese, and the Romans little, till Marcus Aurelius sent an embassy A. D. 166. In 530, the first silkworms were brought from China to Italy. The Saracens penetrated into China, and actually took possession of Canton in 758; in 1211, Gengis-khan conquered, and added part of China to his vast empire. About

1510, European traders began to visit Canton. At least 30 different embassies have proceeded from Europe to Pekin, many of them splendid and expensive, but the Chinese government received them as representatives of kings, sent to do homage!

Arabia never was conquered by any foreign nation. Its sands have been its security, and the poverty of the people has offered no temptation. Job was an Arab. Their power of story-telling is almost universal.

Mahomet was born at Mecca in 569, the year after the Abyssinian invasion, called the War of the Elephant; in which the Arabs say the invaders were destroyed by stones from heaven, and a flood of the Red Sea. His father was Abdallah, and his mother Amina, both of good family, and great beauty. His grandfather, Motalleb, took charge of him, and died at the age of 110. His uncle, Abu Taleb, brought him up as his own son, and took him, with a caravan, to Egypt and Syria; and he afterwards served in a campaign under his uncle, who was commander, and also guardian of the Caaba. At 25, he married Cadiga, a rich and noble widow, and lived in opulence. The religions of the Arabs were the ancient Sabeanism, Jewish, and Christian. At 40, he announced himself a prophet, and taught the Unity of God in opposition to the Trinity, and disclaimed the reverence which the Jews bestowed on Ezra. His first converts were his wife, his cousin Ali, his servant Zeid, and Abu Bekr, a man of distinction, who made five proselytes. He now preached in publick, in the courts of the Caaba, the belief and worship of one God, and began to produce the Koran. He was joined by Hamza and Omar, but opposed by the Koresh or Pagan priesthood. A deputation of 75 came from Medina, and acknowledged him. The Koresh now sought his life; and he fled, with Abu Bekr, to Medina, where 500 disciples met him. Here he adopted the kingly and sacerdotal office, established a mosque, and preached in it. He banished 700 of his opponents, and buried 700 alive, chiefly Jews, seizing their wealth. He soon after had an engagement with 1000 of the Koreish forces, and defeated them in the battle of Beber, in 623; after which he had 1000 warriors, and fought the battle of Ohud, but was defeated; and Medina was besieged by 12,000, and defended by 3000. The besiegers being baffled, a 10 years' peace was concluded.

Two years after, he gained a victory at Muta, over a large army of the eastern empire; and, in 629, he marched with 10,000 men, took Mecca, and destroying the 360 idols in the Caaba, consecrated it to his religion called Islamism. In another year, all Arabia yielded to his pretensions. He now marched, with 30,000 men, against the eastern empire; and, securing peace by his approach, he returned to Medina, and performed the Pilgrimage of the Valediction, with a train of 114,000 believers. He was supposed to be poisoned by a Jewess, and died aged 63, in 632, at Medina. The Mahomedans regard him as a man adorned with every virtue, and as the greatest legislator the world has produced. He was succeeded by Abu Bekr, the father of his second wife, in whose arms he died; and the Caliph advanced into Syria, while Caled pursued victory to the Euphrates. In 634, Damascus was taken; and, on the same day, died Abu Bekr, who bequeathed the Caliphat to Omar. Soon after was fought the battle of Yermouth, in which 150,000 Christians were slain, and all Syria became Mahomedan. They now invaded Egypt; and, in 641, the standard of Moslemism was established throughout that country. In the north and east they overran Persia, Armenia, and Mesopotamia. In 643, Omar was assassinated in the mosque, at Medina. Othman succeeded in 644; and his general, Abdallah, subdued the north of Africa; but, in 655, he was killed in a rebellion in his palace, and succeeded by Ali, the second disciple, and vizier of Mahomet. The widow of the prophet headed a rebellion against Ali, and though she was defeated and taken prisoner, his reign was turbulent, and he was assassinated by a fanatick at Cufa. In spite of their broils this Mahomedan, or Saracen empire, was, in 70 years, extended from India to Sibe

ria, and from Samarcand to the Atlantick; while, in 704, they became masters of Spain and Portugal, and the empire exceeded in extent any recorded in history. In 760, Al Mansor removed the seat of empire to Bagdat; and, for 500 years, the caliphs made amends to science and literature, for the ravages of the fanaticks who succeeded Mahomet.

In 637, the Mahomedans first entered Africa, under Omar. In 650, they invaded Barbary. In 710, they overran Numidia and Lybia. In 973, Nigritia; and, in 1067, Lower Ethiopia; extending their faith to the Equator.

Bagdat, the famous capital of the caliphs, was founded in 762, by Al Mansor, near the site of Seleucia, or New Babylon, on the Tigris, and about 50 miles from Babylon the Great, on the Euphrates. The despots of these countries built capitals, and peopled them at their pleasure. Old Babylon yielded to New. New to Ctesephon. This to Almadayen, and this to Bassora and Bagdat, which were successively built by Omar and Al Mansor. Bagdat was the capital of the sovereign Caliphat, and the seat of science and the arts.

In 1258, Bagdat, which, for 500 years, had been the seat of luxury and civilization under the Abbasinian caliphs, was taken, plundered, and burnt, by Hulacu, at the head of an army of Tartars and Muscovites, and its men of science scattered over the world. It is still a fine city, and Bassora is its port, from which merchandise is brought in boats up the Tigris, and sent thence into the provinces.

In the 9th century there were six or seven caliphs, or Mahomedan sovereigns of Bagdat, Syria, Cairo, Fez, Spain, &c; but, about 1180 Saladin sunk the title in that of *Soudan* or *Sultan*.

The crusades are a memorable instance of the ascendency of priestcraft over the passions of mankind. About the middle of the eleventh century, Christian pilgrims found access to the holy land so difficult, that all christendom was aroused by Pope Urban II., to march under the banners of the cross towards Jerusalem. In the autumn of 1096, 200,000 of these fanaticks advanced from all parts of Europe to Constantinople, under the command of a priest of Amiens, called Peter the Hermit. On their route they killed all Jews; and the remnant which passed into Asia, were exterminated by Solyman the Great; but, in the following year, no less than 100,000 horse and 600,000 foot passed the Bosphorus, led by Godfrey, Hugh, Raymond, Bohemond, and Tancred, who defeated Solyman, and an army of 600,000 Asiaticks. In two years, they lost half a million; but, taking Jerusalem by storm, they put all (except the Christians) to the sword, animated to this deed by Peter. Godfrey was now made king of Jerusalem; and another army of 200,000 soon followed, but were cut off by the inhabitants of the countries through which they passed, as marauders, or destroyed in detail by Solyman. About 40 years after the King of France and Emperour of Germany, accompanied by St. Bernard, passed into Asia with 300,000 frantick followers, but were overthrown by Saladin, who, having retaken Jerusalem, staid the flow of blood, proclaimed free toleration to the Christians in 1187; but, in 1190, the kings of France and England, and the Emperour of Germany, proceeded with nearly half a million of men upon a new crusade. The emperour was drowned; and though King Richard gained a victory over Saladin, he returned alone; and in Austria, suffered a long imprisonment. In 1202, Baldwin set forth with another expedition; but quarrelling with the Greek empire, he overthrew the goverment, and was made emperour. Afterwards John of Brienne set forth, in 1219, and landing with 100,000 men in Egypt, took Damietta, but lost his army by an inundation of the Nile.

The last of these mad enterprizes was undertaken by St. Louis, King of France, who embarked with 200,000 men, conveyed in 1800 transports, under the banners of the cross, and landing in Egypt, was defeated by the Saracens, and taken prisoner in 1250, and, though well treated, and liberated in 1270, he embarked again, and landing at Tunis, he and most of his army perished by disease. It has been

estimated that these religious wars cost Christian Europe forty millions of lives, while they deferred the progress of civilization, and conferred a ferocious military character on the people.

In the religious battle, in Spain, with the Moors, Alphonsus II., about 800, slew 70,000 Moors in one battle. No quarter was given by opposite religions!

At the battle of Tholosa, in Spain, in 1220, Mahommed Al Nahur, the Moorish Emperour, was defeated, with the loss of 150,000 foot, and 30,000 horse slain, and 50,000 prisoners, by Alphonsus IX.; in 1340, Alphonsus XI. defeated them, with the slaughter of 200,000. Modern battles, even the crowning victories of Napoleon, were mere skirmishes to these almost forgotten slaughters, recorded by Mariana.

Constantinople was taken by Mahommed II. on May 29, 1453, and the Emperour Constantine Paleolagus killed in the breach. There have since, or, in 377 years, been 24 Turkish emperours, reigning, on the average, 16 years.

Athens, with 200 other christian cities, was, in 1455, united to the Ottoman Empire by Mahomet II.

The kingdom of Poland rose to distinction under the Jagellan Dynasty, between 1320 and 1580. Muscovy was a distinct Sclavonick race, and a province of Tartary till 1500. Prussia was a province of Poland till 1600. In 1773, 1793, 1795, and 1815, Russia, Austria, and Prussia confederated to seize on parts of Poland.

The siege of Belgrade, so often quoted, was undertaken in May, 1717, under Prince Eugene. In August, the Turkish army, of 200,000, approached to relieve it, and a battle was fought, in which the Turks lost 20,000 men, after which Belgrade surrendered.

The Mogul empire was divided into districts, governed by *Soubahs*, and these into local jurisdictions, governed by *Nabobs*. When the empire fell, these aimed at independence, and of their conflicts the East India Company took advantage, and made nearly the whole dependant or tributary.

The Bucaniers were European pirates, who, in the American seas, sought to divide with the Spaniards the wealth which they had plundered from the native inhabitants of Mexico and Peru. The vast extent of unoccupied coast afforded secure places of rendezvous, and their desperate courage made them masters of those seas. The first of them, whose exploits are recorded, was Pierre Frank, a Dunkirk man, whose success was of short duration. The second was Bartholomew, a Portuguese; he was wrecked, and drowned. The third was Montbar, a Frenchman, and he was stimulated by detestation of the Spanish atrocities, more than the love of plunder, and was, by the Spaniards, called the exterminator, for he never spared them, and never relaxed in his enterprizes. The next was L' Olonois, who, in like manner, carried on an exterminating war, in which he attacked the Spaniards in their forts and towns, till he was killed. The last was Morgan, commonly called Sir Henry, and he contrived to organize an immense piratical force, taking Porto-Bello, and marching with a land-force, and taking Panama, which he burnt. Their prize-money was so considerable, that desperate adventurers joined them from all parts of Europe, and they became as terrible in the Peruvian Seas as in the Mexican; but, in the beginning of the last century, the maritime powers found it their common interest to put them down, for the commerce of all countries suffered by the Spaniards in their defence, as well as from the Bucaniers, who did not confine their attacks to Spanish vessels, when a rich prize offered.

The Succession War, from 1702 to 1713, arose out of a question whether an Austrian or a French prince, grandson of Louis XIV., should succeed to the throne of Spain. Our William III. organized a confederacy to oppose Louis, but, after obtaining great victories at Blenheim, &c. &c., the Allies withdrew one after another, and the French prince succeeded.

The first European settlement in Virginia was made in 1607; at New

York, in 1609; and, in Massachusetts, in 1620.

The Battle of Bunker's Hill, or Breed's Hill, took place June 17, 1775. On October 11, 1777, Burgoyne surrendered. October 19, 1781, Cornwallis surrendered. On November 30, 1782, the independence was acknowledged.

On March 4, 1789, Washington became president. In 1797, J. Adams. In 1801, T. Jefferson. In 1809, James Madison. In 1817, James Monroe. In 1825, J. Q. Adams. In 1829, A. Jackson.

Penn's charter was dated March 4, 1681; and his first colony was 500 persons.

The Cape of Good Hope and the Canary Islands were discovered about	1405
Madeira was discovered in	1420
The Cape de Verd Islands	1474
The Bahamas, Hispaniola, and Cuba, by Columbus	1492
The Continent of America, by ditto	1494
Brazil	1500
Ceylon	1506
Madagascar	1507
New Spain, and the Straits of Magellan	1518
The first voyage round the world was completed in	1522
Japan was discovered	1542
California	1543
Virginia colonized by Raleigh	1584
Falkland Islands	1592
Hudson's Bay	1610
Louisiana	1633
Otaheite, &c.	1767

In 1804, Napoleon had assembled 160,000 men, 10,000 horses, 17,000 sailors, and a flotilla of 1300 vessels, to invade England, from Boulogne, Wimereux, and Ambleteuse, and the expedition was baffled by Admiral Villeneuve sailing to the West Indies, instead of entering the channel. The English Government subsidized Austria and Russia, and the army of Boulogne conquered Austria, and gained the victory over both at Austerlitz. The coasts of Kent and Sussex were also lined with martello towers and lines of defence, and nearly half the population formed volunteer corps. The question was the evacuation of Malta, agreeably to the treaty of Amiens.

The Battle of Leipsic, fought in 1813, was lost by Napoleon, owing to a body of 30,000 Saxon allies turning on the French, in the heat of the battle.

The Battle of Waterloo was continued till night, by the arrival of 40,000 Prussians, under Bulow, about 4 o'clock, and was gained by a flank assault of 10,000 fresh Prussian cavalry, under Blucher on the right of the French army, at 8 in the evening. The battle was fought on the position of the combined army, which was a plain, with a valley in front; and their two advanced positions, in the valley, were a farmhouse, and enclosed yard by the road side, called *La Haye Sainte*, in the centre; and a chateau, with an enclosed garden and orchard wall, called *Hougomont*, to the right. These, containing picked regiments, were taken by assault, with terrible mutual slaughter, but Hougomont was afterwards burnt by Congreve rockets. The battle then took place on the ascents from the valley, and on the plain above, till the arrival of Blucher's cavalry, who, galloping through the valley, took La Haye Sainte, and placed the French on the heights between two fires.

The year 1830 was remarkable for three revolutions, that in France, July 27th, when Charles X. was expelled, and a constitutional Government formed by Louis Philippe, and the Chamber of Deputies; that in Belgium, in September, by which the Orange Family were driven into Holland, and a popular government established; and that in Poland, in December, by which the Russians were expelled, and a popular government formed.

Treaties and National Conventions in Modern History.

The Golden Bull	1356
Treaty of Troyes	1420
Pragmatick Sanction	1439
League of Cambray	1508
Edict of Worms	1521
The French League	1576
Peace of Munster	1648
——— Breda	1667
Triple Alliance	1668
Treaty of Nimeguen	1678
League of Augsburg	1686
Treaty of Partition	1700

Methuen Treaty	1703
Treaty of Utrecht	1713
—— Aix-la Chapelle	1748
Family Compact	1761
Peace of Paris	1763
—— Versailles	1783
Treaty of Pilnitz	1791
Partition of Poland	1795
Peace of Leoben	1797
Congress of Radstadt	——
Peace of Luneville	1801
—— Amiens	1802
—— Presburg	1803
Berlin Decree	1806
Peace of Tilsit	1807
Milan Decree	——
Treaty of Bayonne	1808
Peace of Vienna	1809
Treaty of Paris	1814
—— Ghent	——
Congress of Vienna	1815
Treaty of Paris	1817
—— Akerman	1826
—— London	1829

ARMS, CUSTOMS, &c.

The Greek Phalanx consisted of 8000 men in a square battalion, with shields joined, and spears crossing each other.

Ancient soldiers were trained to fight with either hand.

A Roman Legion consisted of 6000 men, divided into 10 cohorts, and every cohort into 6 centuries, with a vexilum, or standard, guarded by 10 men.

The Macedonian Phalanx was 16 deep, with shields joined.

Among the early Romans, commanders of armies were called *Imperatores*, but when Cæsar became Emperour, the commanders were called Dukes, or Lieutenants of Provinces.

In a Roman Army, the first line were *Hastati*, or young men; the second *Principes*, or middle aged; the third *Triarii*, or veterans. The light troops, for skirmishing, were called *Velites*. The latter had bows and slings, and seven javelins. The former, a two-edged sword, buckler, and helmet.

Attached to every Roman legion was an ala of 300 horse in 10 turmæ. The commander of the legion was a perfectus; of the cohorts, a tribune; and of the centuries, a centurian. The standard was a silver eagle, on the top of a spear.

The Greeks and Romans had no standing armies in time of peace. In war, every citizen was a soldier.

The Romans had no titles. Scipio and Cæsar were simply so called. Titles began in the Court of Constantine. The Emperour of Germany first took the title of *Majesty*. Kings, till the 15th and 16th century were called *Highness*.

The Eagle was the Imperial Symbol in Persia, Rome, and of Napoleon. It is now adopted by Austria, Prussia, and Russia.

The Romans deified their emperours, &c., by a solemn publick ceremony, called an Apotheosis, in which the priests and heads of the state assisted in great pomp.

The Romans counted by cycles of 9 days, the Greeks by 10, the Asiaticks by 7, and hence our weeks.

Roman names were Prænomens, Nomens, and Cognomens, as Caius Julius Cæsar, or Publius Cornelius Scipio.

The head of the Memnon, from Thebes, is in one entire block, measuring 10 feet from the breast to the top of the head, and weighs 12 tons.

Baiæ was the pleasure town of Rome, Daphne of Antioch, and Canopus of Alexandria, just like Brighton and Cheltenham to London, or Versailles to Paris.

The candidates for the athletick games, in Greece, used to be dieted on new cheese, dried figs, and boiled grain with warm water, and no meat. The games were leaping, foot races, darting, quoits, wrestling, and boxing.

The Romans had 327 publick granaries, from which they distributed corn to the poor, at the cost of the publick treasury; and they had no almshouses, or poor-rates. The Greeks had various charitable institutions.

The Romans lay on couches at their dining tables, on their left arms, eating with their right.

In Greece it was the custom, at meals, for the two sexes always to eat separately.

The early Romans ate boiled grain;

they had not the art of bread-making, and had no mills.

All ages have produced heroick women, but none a nation of Amazons.

The largest battering rams of the ancients were equal in force to a 36 lb. shot from a cannon.

Silver was first coined by Phidon, king of Argos, about 860, the epoch of the building of Carthage, and about 140 years after the building of Solomon's temple.

Among discoveries of ancient coins, 60,000 Roman ones were once found at Modena. 40,000 gold Greek coins were found in a river in Transylvania. 30,000 Roman coins were found near Brest; and 600 lbs. of silver coins were found in Sicily. Pots full are often found in Britain.

The most ancient known coins are of the fifth century B. C. and are Macedonian; but others are believed to be more ancient. After that date they illustrate history, but not earlier. They are of gold, silver, copper, or brass. Few give dates, and, therefore, they are more curious as relicks than useful as records.

The most perfect chronology is Antini's L'Art de verifier les Dates. The next is Blair's, a Scottish work; and Aspin's is a very careful compilation.

The Jews had no chronology. The Chinese invented their Sexagenary Cycle, in 2539 B. C., and, till then, their history was necessarily confused. The Hindoos adopted it. Till epochs were fixed, and cycles invented, there was no certain record of time; and hence the confusion of early history.

Anthropophagi, or feeders on human flesh, have existed in all ages, and still exist in Africa, and the South Sea Islands. Diogenes asserted, that we might as well eat the flesh of men as the flesh of other animals. The Greeks inform us it was a primitive and universal custom. Some of their gods lived on human flesh, and the Cyclops did the same. Aristotle and Herodotus name various nations who preferred human flesh to that of animals. The Giagas, and several African nations, have the same preference; and we all remember the practices at Owyhee, New Zealand, &c. &c. Human flesh has the flavour of hog's-flesh, and the tenderness of the flesh of calves.

The horrible punishment of crucifixion is still practised in some Mahomedan countries. The unfortunate victims often live in torture for many days. All the characters of antiquity, who are lauded in history, indulged in this superlatively barbarous practice. Alexander, Cæsar, Augustus, Titus, all the Roman Emperours, and the Mahomedan conquerors often crucified their hundreds, and even thousands at a time, and women were not exempt from this fate.

The wearing of rings is very ancient. It was prohibited in Rome to all mechanicks, and men of mean condition, to wear rings of gold, so that granting a license for any person to wear a ring, was as much as to make him a gentleman. The usage of sealing with rings is also of great antiquity.

The adoration, claimed by ancient kings, was that of kneeling and prostrating, as practised in many courts to this day. Alexander merely claimed this homage after the eastern fashion; and hence the railing of the Greeks.

Amphitheatres were vast erections in the Roman empire to amuse, or rather brutalize, the people, and qualify them for military life by the exhibition of murderous contests between gladiators and wild beasts. They were of an elliptical form, and adapted for thousands of spectators, to whom carnage was made a pastime. They were invented by Julius Cæsar and Curio. Augustus caused them to be erected every where. In the reign of Tiberius one fell at Fidenæ, by which 50,000 persons were killed or wounded. Vespasian built the first of stone, the vast Coloseum for 100,000 spectators. Its longest diameter is 615.5 feet, and the other 510, covering 5½ acres, and being 120 feet high. It was imitated at Capua, Verona, Nismes, Autun, and Pola; while at Italica, Alba, Otriculi, Puzzuoli, Pœstum, Syracuse, Corinth, Arles, Caerleon, and other places, smaller ones were constructed.

On the triumph of Trajan over the Dacians, 11,000 animals were killed in those at Rome; and 1000 gladiators fought during 123 days. The

gladiators at first were malefactors, who fought for victory and life; or captives and slaves, who were made to fight for freedom; but soon many lived by it as a profession, and even ladies became gladiators. They continued with modifications for above 500 years. Tilts and tournaments, with duelling, were the last remains of them.

The Babylonians worshipped fire, as the emblem of the sun. They were acquainted with geometry and mechanicks, and were perfect manufacturers, their products selling at vast prices in all countries. They professed to derive their knowledge from Oannes, who sprung from the first egg, appeared in the Red Sea, and taught letters and the sciences. Their astronomy was accurate, but subservient to astrology. They lived like the Hindoos, chiefly on vegetables, in which the country, owing to inundations, was wonderfully productive.

The oriental philosophers taught a trinity, in *Orimanes*, God; *Methra*, the Spirit; and *Arimanes*, the Devil.

The *Ancient of the Mountain* was a title assumed by the chief of a Syrian corps of assassins, in the 13th century.

The shield, the breast-plate or gorget, was extended to the body and limbs as armour, and the helmet protected the head. The most savage tribes use shields, and often helmets. Shields were usually made of leather, but often of wood or metal. The Grecian was round, the Roman square. The helmet was provided with a vizor, to raise above the eyes; and a beaver, to lower for eating. The vizor, with grated bars, is used in the arms of nobility; the elevation, without bars, a knight; and the vizor closed, an esquire. The armour, for the arms and shoulders, was called the *vambrace* and pouldron; for the thighs and legs, *cuises* and greaves; and, for the hands, *gauntlets*.—Knights wore golden spurs; squires silver ones. The armour, or mail, was called *chain*, if made of scales or net-work; or *plate*, if in small metal pieces. The Saxons and Normans used long spears. The Greeks threw theirs. Spears were 6 yards long, and pikes 14 or 15 feet. Maces were originally clubs, used by cavalry, and fixed in their saddles. The Roman swords were from 20 to 30 inches. The broad sword and cimeter has lately been adopted.

Taliesin says the *Gwyddyl*, (Celts or Gauls) *Brython*, and *Romani* had taken possession of different parts of these islands before his time.

"Gwyddl, a Brython, a Romani.
"A wana hon dyhedd, a dyfysei;
"Ac am derfyn Prydein, cain ei threfi."

Irish little resemble Welsh. The first Celts were progeny of the Titans, and their princes and nobles were Curetes and Corybantes, or Cowri, and Cowri-bann, meaning nobles; and their name Gwyddyl, is from Gwydd-trees or shrubs, or inhabitants of forests.

Aaron Raschid, in 802, sent from Bagdat, among other presents, to Charlemagne, a clock of curious workmanship.

The lands being taken by conquerors from proprietors, and given to partizans, the new occupants would have been burnt in their dwellings by the indignant people if they had been accessible. A fort, for the same reason, is the first erection of intruders in every new colony. The ancient Castle generally enclosed from 5 to 10 acres of land: and had a river or ditch, commonly filled with water. On its verge was a wall, then another wall, a space between them being called the ballium. Within the second wall were apartments and storehouses for the garrison, and a citadel, or keep, placed on a high mound for further security; and there often were subterranean secret ways. Beyond the moat was the barbican, or watch-tower, and from it, across the moat, was a drawbridge raised inwardly. The entrance through the ballium was secured by gates, with a ponderous grating, or portcullis, which was raised or let down by iron chains running over pulleys. The walls were further protected by battlements and towers, and by loop-holes, to fire arrows through. All the walls were 8 or 10 feet thick, but those of the keep were 15 or 20; and, without artillery, they seemed unapproachable, and likely to surrender only from want of provisions. In

some secure part, there were vaults for the security of prisoners. Probably some of them were first constructed by the Romans, and others in the time of Alfred; but the system in England was carried to perfection by the Normans.

Archers were a formidable part of all ancient armies, and the use of the bow seems to have been known to all nations, when first discovered. The Scythians were the best ancient archers, and the English among the moderns. The victories of Cressy, Poictiers, and Agincourt were chiefly gained by the English archers. Robin Hood shot a full mile; and, according to his bard, a north-country mile was equal to two statute ones. The Scythian bow was of horn. The English long-bow was 5 feet 6, and they were made of steel and brass. Arrows were from 3 to 5 feet. Ash was used by the English, and goose feathered, two of the fledges white and one black. The heads were iron or brass, with light steel points, and small barbs. The strings were of gut, or hide, or hemp. A sheaf of arrows was 24; and the archer was armed with a maul and a dagger. The English archers drew to the ear steadily. A furlong was the distance of the butt, in shooting at marks. The Parthians, and other nations, had horse archers.

The usual range of the long-bow was from 3000 to 4000 yards. Robin Hood and Little John shot twice that distance. They could shoot six arrows in two minutes. The length of the bow was six feet, of the arrow two or three. They were of yew or ash. Cross-bows were fixed to a stock of iron or wood. It was bent by a lever, and its two strings were discharged by a trigger. It threw bullets and stones, as well as arrows. Its range was 150 yards.

Among the ancients the balista discharged stones, and the catapulta arrows. They were equivalent to artillery. The catapulta threw arrows half a mile, and the balista, stones of 200 or 300 weight.

The mark used by archers, in trials of skill, was called a popinjay, because like a parrot. Archers used long bows, of yew or steel; others were cross-bow-men, who fired quarrels, or darts and stones. Bowyers made bows, and fletchers arrows and darts.

The composition of gunpowder is said to be concealed in the works of Roger Bacon; and he had correct notions of the radiation of light, if he did not invent spectacles. His reasoning powers did not, however, enable him to discard the elixir vitæ, the philosopher's stone, and astrology.

Robins says, that no field-piece should be loaded with more powder than a fifth or sixth weight of its ball; nor any battering-piece with more than a third.

The velocity of the explosion of gunpowder, fired alone from a cannon, is 7000 feet per second; and, at the moment of explosion, four times greater. Cannon-balls go farthest at an elevation of 30°, and less as the ball is less.

Cannon were used at Quesnoy, or Cressy, perhaps before, and called *bumbards*.

The largest known piece of ordinance is of brass, cast in 1685, at Beijapour, by Aulem Geer. It is 14 feet 1 inch long, and 28 inches bore, and equal to a ball of 2600 lbs.

13-inch mortars range 2¼ miles, and weigh 82 cwt., are 5 feet 3 inches long, and take a charge of from 20 to 30 lbs. of powder; 10 inch range 2 miles; and 8-inch, 1 mile, 2 feet 1 inch long, with 2 lb. 2 oz. of powder; 13-inch, in the land-service, are 3 feet 8 inches long, with 9 lb. 1 oz. of powder; 68 lb. shot are 8 inches in diameter, with 9 lb. of powder, and bore 4 inches; a 13-inch shell weighs 198 lbs., and is charged with 6¼ lbs., of powder.

The Shrapnel shell is a bomb filled with balls, and a lighted fuse to make it explode before it reaches the enemy, when the bullets separate, and proceed as before.

The range of carcasses is about two miles, and those of 13-inch diameter require about 30 lbs. of powder.

The famous floating batteries with which Gibraltar was attacked in 1782 were the scheme of D'Arcon, a French engineer. There were 10 of them, and they resisted the heaviest shells and 22-pound shot, but ultimately yielded to red-hot shot.

Rifle barrels make the ball pass through a screw, formed in the length of the barrel, by which the velocity, at exit, is increased, and the aim is more true.

Muskets have, till lately, borne the ancient names of hand-guns, alivers, hackbuts, harquebusses, match-locks, and fire-locks. Within 120 years they were discharged with a match.

Perkins's steam-artillery is to throw 60 balls, of 4 lbs., per minute; and from 100 to 1000 musket balls per minute.

In modern tacticks, the hollow square is preferred to the solid squares of the ancients, when infantry are attacked by cavalry.

We cannot wonder that *kings* so readily cause men to be killed, when it appears, on authority, that Charles the Tenth, in a single year gratified his *royal* taste by 89 stag-hunts, and by shooting 3525 pheasants, 1375 partridges, 555 hares, and 1532 rabbits. In all, this royal exemplar destroyed, in one year, 7404 animals, most of them more worthy to live than himself; while his precious son, the Dauphin, claimed his 7025, including more pheasants and hares than his father. In one year, 1828-9, there were killed, in France, 834 wolves and cubs.

The European nations have had in service the following armies:—Russia and Austria, 500,000 each; Prussia, 350,000; Great Britain, 300,000; France, 650,000; Spain, 150,000; Holland, 50,000; Bavaria, 50,000; Turkey, 450,000; Sweden and Naples, 40,000; Denmark, Portugal, &c. 25,000. each.

It is estimated that, in the last 4000 years, the following number of the human race have perished by violent deaths in the field of battle, or have been slaughtered in the sacking of cities: During the time of

Bacchus, &c.	*Millions*	15
Sesostris		15
Semiramis		10
Cyrus		10
Cambyses, &c.		25
Alexander		10
His Successors		20
Jewish Wars		25
Romans before Cæsar		60
Grecian Wars		15
Other Ancients		25
Twelve Cæsars		30
Roman Empire		60
Northern Nations		50
Middle Ages		40
Crusades		40
Saracens		60
Reformation		30
Tartars		80
Turks		60
Chinese		100
French Revolution		60
American Wars		40
African Wars		100
Killed in Battle, &c.		980
Severely Wounded		2940
Famine and Suffering		2940
Millions		6860

At the rate, in 4000 years, of 1,715,000 per annum; or seven times the present number of the species.

*** *For other facts in history, and for numerous dates in relation to all kinds of events, please to consult the articles* BIOGRAPHY *and* CHRONOLOGY.

BUILDING AND ARCHITECTURE.

THE *Cyclopean Style*, from its extraordinary magnitude, is ascribed to the early Cyclops, men, who, from their power, prowess, and mighty works, are believed to have been the Giants and Titans of the Septungint version of Isaiah; and whose deceased monarchs became afterwards the sovereign Gods of Greece and Rome. The general character of the Cyclopean style was immense blocks without cement, though the walls are now irregular, from smaller stones, which filled up the interstices, having disappeared. Hamilton divides the style into four eras:—The *first*, or oldest, is that used at Tiryns and Mycenæ, consisting of blocks of various sizes, of which the interstices are or were filled up with small stones. The *second* era as at Iulis and Delphi, is marked by polygonal stones, which nevertheless fit into each other with great nicety. In this style there are no courses. The *third* style, as in the Phocian cities, and in some of Bœotia and Argolis, was distinguished by the work being made in

courses, and the stones, though of unequal size, being of the same height. The *fourth* and youngest style, presents horizontal courses of masonry, not always of the same height, but formed of stones, which were all rectangular. This style was chiefly confined to Attica. Pliny says, that the Cyclops were the *inventors* of the fortifications of towns, and also of towers. Sir William Gell adds, that Tiryns is the best specimen of the military architecture of the heroick ages. Homer calls it the well-walled Tirynthus, so that there cannot be a doubt but that the present ruins are those of the citadel, which existed in the time of the poet, and was built about 1379 before Christ, by Prætus.—*Fosbrooke.*

The Gate of the Lions, at Mycenæ, is Cyclopean. Euripides calls Mycenæ a Cyclopean city; and Homer mentions it among those which were fortified before the Trojan war. Apollodorus says, that Perseus fortified Tiryns and Mycenæ. The Gate of the Lions, says Pausanias, is said to be the work of the Cyclops, who built the walls of Tiryns for Prætus. And the lions are the only existing specimen of the sculpture of the heroick ages. They have not the tails of lions, a circumstance observable also in the sculptures of Persepolis, where animals very like those of Mycenæ are represented, as well as lions, who have the tail natural to their species. The Cyclops were worshippers of fire, Vulcan, and the Sun; and the lion may have been the national symbol.

The Cyclopean gate of Mycenæ affords a perfect commentary upon passages of scripture. The markets were held in these places: "And here," says Dr. Clarke, "we see the origin of the vicinity between the forum, senate-house, and basilica." "Either the Britons," says Dr. Fosbrook, "invented modes of fortification for themselves, or copied from others." That the Cyclops were Celts is certain; and it appears that the postern gate of Mycenæ is in the form of one of the Trilithons of Stonehenge; and that the Cyclops worshipped the Sun, whose temple in Britain, mentioned by Diodorus, is that celebrated remain. The Acropolis of Mycenæ is marked by terraces, which wind up a hill, and were defended by walls, square towers being placed at the angles, and at the distance of about every 50 feet in the straight walls. Trer Caeri, the most perfect of the British fortresses, is in like manner a hill terraced and hooped with walls; and the Little Doward, near Monmouth, has the winding ascent, and earthworks of foundations at top, similar to Mycenæ. The ancient Irish fort, called *Horsleap*, is also a succession of terraces. The Cyclopean masonry was not, however, limited to Greece. Two fine specimens occur in Italy, at Ansidonia and Saturnia, towns anteriour to Rome, and at the Old Lycosures in Arcadia, whence issued all the colonies of Italy. We may see the religious style of architecture, belonging to the Cyclopean age, in the fine remains at Salset, Elephanta, Canora, and Illoura. They are caverns cut out in the body of a rocky hill, and shaped into courts, supported by parts of the rock, formed into columns at Elephanta, with cushion-like capitals. The sides are filled with bas-reliefs, so prominent that they are joined to the rock only by the back. Many of the figures are colossal.

Egyptian architecture astonishes by massy grandeur. It simply consists of enormous blocks, thick columns, walls narrowing upwards, with immense impending cornices, but no pediments, because, as it never rains in Egypt, there was no necessity for these, or roofs. It improved the Cyclopean.

The earliest Egyptian column was simply a stalk of the lotus, topped by its calix. The lotus is the ornament which reigned every where; and it is interlaced with infinite grace in the volutes of the Ionick and Composite capitals. In short, the calix of a flower above a bundle of its stalks suggested the form of the column, base, and capital. All the ornaments are heavy in the execution, and offer no repose to the eye. The Egyptians worshipped every divinity but the graces; every thing was upon a grand scale, suited only to gods and kings. Therefore, their buildings are especially characterized by forests of columns, avenues of sphinxes, lions, or rams, all colossal; large moles, with

immense colossal statues in front of them, obelisks, gate-ways, preceded by avenues, and detached from the moles which flanked them.

Strabo thus describes an Egyptian temple: At the first entrance is a court or avenue paved with stones about 100 feet wide, and 3 or 400 feet long, sometimes more. This is called the Dromos. On each side are sphinxes in two rows, about 30 feet asunder. After this, is one or more vestibules. Next is the temple, which consists of a large court or anti-temple, and an innermost temple. The latter is not very large, and there is no sculpture in it; or, at least, if there is, it is of some beast, but never of the human figure. At the further end of the anti-temple, are a sort of wings of the height of the temple, and the walls as far distant from each other as are the breadths of the foundations of the walls of the temple, and they are so built as to incline towards each other. On these walls are cut very large figures, much like the Etruscan and Grecian works. Strabo joins with Herodotus in saying, that the Egyptians and Phœnicians were the first nations who erected temples, but the Indian caverns are justly presumed to be more ancient.

Denon gives the general plan of the great temples: 1. An avenue of sphinxes. 2. Two colossal figures on each side of a gateway, formed by immense towers of truncated pyramids, with overhanging cornices. 3. This gateway led into a court full of columns, and chambers round the walls. 4. Passing across this, the visiter comes to other courts, likewise full of columns, through gateways, ornamented with colossal figures and obelisks. 5. In the centre was the sanctuary, without light, consisting of a single excavated block. One of them, at the temple of Latona, was 71 feet broad in front, carved out of one entire stone, and roofed by another. Semiramis is said to have brought from the mountains of Arabia a rock 20 cubits broad, and 150 long. Herodotus mentions one more than 20 cubits broad and 15 long, conveyed from Elephanta by a journey of 20 days. The general rule for determining the age of Egyptian temples is their size. The smaller they are, the more ancient.

The ancient Egyptians believed that their souls, after many thousand years, would come to re-inhabit their bodies, in case these latter were preserved entire. Hence arose the embalming and the situation of the sepulchres, in places not subject to the inundation of the river. These tombs at Thebes consist of sepulchral grottoes, made in the side of a hill, from its base to within three quarters of its summit. The lowest are the best executed, and the most spacious. A door open to the east leads to a gallery supported by columns or pilasters. At the end of the gallery is a well, which leads to the catacombs, where the mummies were deposited. These walls, from 40 to 60 feet deep, abut upon long subterranean alleys, terminating in a square room, supported by pillars. In the upper gallery are bas-reliefs, or paintings on subjects relating to the funeral ceremonies; and every grotto had a ceiling painted in a fanciful manner. Every grotto communicated with the valley by a large door. This leads into a succession of galleries, with chambers on both sides. One of these contains the actual sarcophagus, in which was placed the mummy of a king. It retains its cover, upon which is the royal effigy. The grand point of notice, however, in these souterrains, is the fresco paintings. They exhibit all the arts of civilization which then existed in Egypt, such as relate to manufacture and agriculture, saddlery, carriages, pottery, counters for trade, rural employment, hunting, fishing, marches of troops, punishments in use, musical instruments, habits and furniture.

Sesostris placed in the temple of Vulcan, at Memphis, colossal figures of himself and his wife, 30 cubits high, and of his children 20.

How the Egyptians and Cyclopeans moved and formed such stupendous masses has been often a subject of doubt and admiration, but the principles of mechanicks are few and simple. Plumb-lines, and wheels and axles, and levers are mentioned in all contemporary writings.

The Pyramids of Egypt have been opened within these few years, but

without any particular discovery, besides some passages, and an empty chamber in the great Pyramid, 66 feet by 27. In an upper chamber, 36 feet by 18 and 19 high, there was found a sarcophagus. Similar chambers were found in smaller pyramids empty, but sometimes containing images and rude sculptures. Belzoni penetrated the second pyramid of Chesroes, and found a chamber, 46 feet by 16 and 24 high, with a sarcophagus, and an inscription certifying that it had been opened by Mahomet I. The great pyramid is 543 feet high, and the second, 452 feet.

The Temple of Ypsambul, in Nubia, is cut out of the solid rock, and of vast dimensions. Belzoni found in it 4 colossal figures 65 feet high, 25 feet across the shoulders, the face 7 feet and the ear above a yard.

The same English and Italian excavators also dug out the great Sphinx, and found that it was sculptured from the solid rock, the paws being put on by masonry. Since that time, Egypt has been visited by many zealous antiquarian travellers, particularly by M. Calliaud, and lastly by M. Champoillon, a gentleman who has analyzed the principles of the hieroglyphick character, so as to be able to translate them with little difficulty; and it appears, that, instead of veiling great mysteries, their contents are little more important than the tomb-stones in a country church-yard, generally certifying nothing more than the name of the constructor, and the local and temporary object for which it was set up, mixed with some trifling mythological reference.

There are 5 Grecian orders of Architecture, the Tuscan, Dorick, Ionick, Corinthian, and Composite; to which is now added, the Gothick, Oriental, Egyptian, and Chinese styles.

In the Tuscan order, the shaft is six times the diameter, and the base and capital, each, half a diameter; the whole seven diameters, and the pedestal is a fourth more, and the entablature a fifth.

The Corinthian column is 20 modules high, the entablature 5, the base 1; the capital 70 minutes.

In the Composite order, the height is 20 modules, the entablature 5, the capital 70 minutes, the base 30 minutes.

In the Dorick order, the base is 32 minutes, the pedestal 1 diameter 36 minutes, the cornice 16 minutes, the base 3 minutes, the shafts 7 diameters, the capital 30 minutes, the architrave 30, the frieze 45, and the cornice 45.

In a Dorick column, the height of the base, shaft, and capital, is 16 modules; the entablature over the capital is 4 modules, 1 for the architrave, 1½ for the frieze, and 1½ for the cornice. The base is one module, and the capital 32 minutes.

The spiral ornaments, like ram's horns, in the Ionick, Corinthian, and Composite, are called *Volutes*. Caryatydes, to support entablatures, were figures of Carian women, taken prisoners in the city of Caria, by the Athenians. Men are called Atlantides.

Ascending, the parts of a column are the plinth, the torus, the bead, the cincture, the shaft, the astragal, the colorind, the annulets, the avolo, the abacus, the fillet, the architrave, the frieze, the cornice, the listel, or uppermost projection.

Columns consist of pedestal, shaft, and capital, in the Dorick, Ionick, Corinthian, Tuscan, or Composite orders. A pillar is a detached column. A pilaster is a support in a wall, square, but in the proportion of the columns.

A minute, in architecture, is the 60th of the greatest diameter or module.

Columns, in ascending, are diminished one-sixth or 2-13ths in diameter, commencing about one-third of the height.

Egyptian modules are the height of the Ionick column, and 4½ is the entablature. The capital is 21 minutes, and the base 30 minutes. In the entablature, the architrave is 3, the frieze 3, the cornice 4.

The Saxon style is known by the circular arch, and the Gothick by the pointed arch, either single or florid.

A well-proportioned room is a breadth and a half.

Babel, or Baalbel, was a lofty temple built at Babylon, by Belus, both as an observatory, and a temple of the Sun. It remains still in existence, under the name of Birs Nimrod, and has been amply described by Rich and Porter. It was formed of 8 square towers, one on the other, 660 feet high, and the same at each side of its base. Lately its height was 160 feet, and the reeds, between every 3 or 4 layers of brick, were perfectly fresh, while the brick seems to be calcined by fire. Babylon continued, for 2000 years after, to be the most splendid city in the world, and so Alexander found it as late as 325 B. C. It decayed on the building of Bagdat by the Caliphs, as better situated for intercourse, in 760 A. D. According to the Jewish annals, it was built 2234 B. C., beautified and enlarged in 2150, by Semiramis, who led from it her armies of all nations. The Euphrates passed through it. It was a square, 15 miles on each side, with 100 brass gates. It was composed of 25 streets each way, 15 miles long, and 150 feet broad, crossing each other at right angles, besides 4 half-streets, 200 feet wide, facing the walls, in detached houses, with gardens and pleasure-grounds. The walls were 87 feet thick, and 370 high. So says Herodotus and other ancients, but the whole must be exaggerated, for, 15 miles each way, would be 225 square miles; and London, vast as it is, does not cover above 32. It must have been equal to Middlesex, and its walls as high as St. Paul's.

The palace, the hunting gardens, the artificial lake 40 miles square and 6 fathoms deep, as well as the temple of Belus, or Baal, with a golden image, 40 feet high, valued at 3½ millions sterling, all savour of eastern exaggeration. In 540 B. C., it was besieged by Cyrus, but being provisioned for 20 years, he blockaded it for 2 years, and then took it by fording the river during a festival of the Babylonians. In 518, under Darius, it revolted, and being retaken, its 100 gates and walls were destroyed. In 478, Xerxes, after his defeat in Greece, passed through Babylon, and, to recruit his treasures, plundered the temple of Belus. and demolished its lofty tower. In 324, Alexander began to re-build it, and employed 10,000 men for 2 months, but his death arrested their progress. 30 years after, Seleucus built Seleucia near it, and drew off its inhabitants, so that in 650 years after, Jerome describes it as deserted.

The palace of the kings of Babylon is still so called by the natives, under the name of the *Kasr*. It is a vast mass, 700 yards each way. The walls are 8 feet thick, one within another, and strengthened with buttresses. There is also another extensive ruin, called *Amram*, three quarters of a mile long, and half a mile broad, which rises 50 or 60 feet above the level of the plain. A third mass is called the *Muljelibe*, which is considered to be the remains of the tower of Belus; the sides are from 200 to 150 yards, and the present elevation is 141 feet. The ruins are immense, consisting of pottery, vitrified brick, bitumen, &c. Another vast ruin or tower, six miles south-west of Hellah, is called the *Birs Nimrod*, and consists of a mound, 762 yards round, rising in a conical form, 198 feet, and on its top has a solid cone of brick-work, 37 feet high. Whether this or the former is the temple of Belus, seems uncertain; near it is another mound, with traces of ruins of vast magnitude. The three former buildings are on the eastern bank, and the *Birs Nimrod* on the western side of the Euphrates.

These vast remains lie on the bank of the Euphrates, north of the village of Hellah, 9 miles from Mohawil, and 48 from Bagdat; and, for their age, are wonderfully preserved.

The walls of Babylon were 64 miles round, which, when the city decayed, served as a park for hunting to the kings of Persia. The era of Nabonasser, one of the kings, was the 8th Olympiad, 6th of Rome, or 748 B. C.

Noah's Ark, taking the cubit at 22 inches, was 547 English feet long, 91 broad, and 54 high, measuring, according to Bishop Wilkins, 72,625 tons, or 20 times as much as the Hibernia.

The wall which separates China from Tartary, has been built full two

thousand years, and is supposed to be upwards of 1200 miles in length: its height varies according to the circumstances of the surface. Where one of us contrived to get to the top it was upwards of 30 feet high, and about 24 broad. The foundation is laid upon large square stones; the superstructure is brick; the centre is a kind of mortar, covered with flagstones. A parapet of no ordinary strength runs on each side of an embattled wall. If we consider that this immense fabrick covers the widest rivers, on arches of proportionate size, or, in the same form, connects mountains together, occasionally ascending the highest hills, or descending into the deepest vales, the most active powers of imagination will be required to realize this effort of man! In every situation, however, the passage along it is easy and uninterrupted; and it serves as a military way from one end of the kingdom to the other. At proper intervals there are strong towers placed, from whence signals are repeated, and an alarm may be communicated to the most distant parts of the empire, with the expedition of the telegraph.—*Macartney.*

Ninevah was 15 miles by 9, and 40 round, with walls 100 feet high, and thick enough for three chariots abreast.

Babylon was 60 miles within the walls, which were 75 feet thick, and 300 high, with 100 brazen gates.

The temple of Diana, at Ephesus was 425 feet long and 200 broad, with 127 columns, 60 feet high, to support the roof. It was 220 years building.

The largest of the pyramids is 481 feet high, and 693 feet on the sides; its base covers 11 acres. The stones are above 30 feet in length, and the layers are 208; 360,000 men were employed in its erection.

The labyrinth of Egypt contained 3000 chambers, and 12 halls.

Thebes, in Egypt, presents ruins 27 miles round. It had 100 gates.

Carthage was 25 miles round.

Athens was 25 miles round, and contained 25,000 citizens, and 400,000 slaves.

The temple of Delphos was so rich in donations, that it was once plundered of 10,000 talents, or 2½ millions sterling; and Nero carried from it 500 statues.

The walls of Rome were 13 miles.

The length of Solomon's Temple, built between the years 1014 and 1005, was 60 cubits, or 107 feet, the breadth 20 or 36 feet, and the height 30 or 54 feet. The porch was 20 cubits, or 36 feet long, and the breadth 10 cubits or 18 feet.

The Temple of Solomon, though extolled as one of the wonders of the ancient world, did not surpass our larger sort of private houses. The generality of the habitations then, were probably no better than what we call huts, or cottages.—*Smith's Michaelis.*

The Temple of Ephesus, in which stood a mean statue, in wood, representing a female with many paps, was dedicated to Diana, and rebuilt seven times. In 356, the day Alexander was born, it was burnt by an incendiary. To rebuild it employed 220 years. It was 425 feet long, and 225 broad, supported by 127 columns, 60 feet high, furnished by princes, and curiously sculptured, each weighing 150 tons of Parian marble. Internally it was decorated with gold, paintings, and statues by the great masters—Scopas, Apelles, Praxiteles, Parrhasius, and the female Timarete. The priests were emasculated, and the sacred virgins were of the highest birth. It was finally destroyed by the Goths in 260. The Turks, in 1300, finished the overthrow of all its edifices, and it is now deserted for Ajasoleck, two miles distant.

The Temple of Baalbeck, in Syria, was famous for its devotion to Baal, or the Sun, but is now in ruins. The outer court, covered with architectural ruins, is 180 feet in diameter. There is then a square of 350 feet, and, on its west side, six enormous columns, the peristyle of the grand temple, once 54 in number, 21 feet round, and 72 high. There is also a smaller temple, with 21 columns, 15 feet round, and 44 high. The stones of the walls are 30 feet long and 9 deep, and three are 58 feet long and 12 deep.

Catacombs are large vaults, with galleries and c nbers, in which

many nations, in certain periods of their history, were accustomed to deposit the dead. The Egyptians were the most anxious on this subject, and the practice appears to have been continued by them, for at least 3 or 4000 years. They embalmed the bodies, and, under the influence of superstition, prepared them for long endurance. Their catacombs were covered with paintings in fresco, thousands of which are still as perfect and fresh as though they were painted within the passing year. M. Belzoni constructed the fac-simile of one in London of the natural size, with all its paintings, hieroglyphicks, and other appurtenances. The bodies have for the most part been displayed for various objects of avarice; and another superstition led the physicians of Europe, for several ages, to prescribe mummies as a medicinal drug. Rome also has its catacombs of vast extent; and Paris and Syracuse have others, but no mummies.

Among the Romans and the eastern nations, bathing was a constant and costly luxury, and warm bathing generally prevailed; while, to indulge in it, every refinement of architecture and ornament was exerted. The publick baths had 5 or 6 apartments for dressing and undressing, and they were called Thermæ. In Rome, there were 856 publick baths; single ones of which could accommodate 1800 persons at once. The Mahomedans consider frequent bathing as a religious duty, so that every house has its bathing apartments, and every village its publick bath. Warm and hot bathing are also very general in Russia and Hungary. All these practices are so essential to vigorous and healthy animalization, that there is wisdom in the religion that enforces them as a duty. A clean skin is as necessary to health as food, or lungs, or alvine evacuations.

Twelve great roads diverged from ancient Rome, and spread all over the empire, there being 12 branches near the city, and 18 others in Italy. Napoleon's great road over Mount Cenis declines 1 inch in 20; and that over the Simplon, made in 1805, declines 1 in 29. It has several tunnels, and the longest is about 500 feet.

The chariots of the ancients were like our one-horse chaises, or phaetons. Close carriages began to be used by persons of the highest quality in the 14th and 15th century. Paris had three in 1550, and Henry IV. one, but without straps or springs; and, in the same age, there were 36 at Warsaw, drawn by six horses. In sundry places men were forbidden to ride in them, as effeminate. They were first made in England in the reign of Elizabeth, and were then called whirlicotes. The Duke of Buckingham, in 1619, drove six horses; and the Duke of Northumberland, in rivalry, drove eight. They were first let for hire in Paris, in 1650, at the Hotel Fiacre; and hence their name. In London, they were first let for hire in 1625, and were 20 in number; in 1637, they were limited to 50; and, at the restoration, 400 were licensed. In 1830, 1200 coaches and chariots, and 200 cabriolets. In 1800, the number of four-wheeled carriages in Great Britain was 17,992; two-wheeled carriages, 14,771; and tax-carts, 16,968.

The construction of temples was adapted by the ancients to the nature and functions of the deities. Those of Jupiter Fulminans, Cœlum, the Sun, Moon, and Deus-Fidius, were uncovered. The temples of Minerva, Mars, and Hercules, were of the Dorick order, which suited the robust virtue of these divinities. The Corinthian was employed for Venus, Flora, Proserpine, and the aquatick Nymphs. The Ionick was used in the temples of Juno, Diana and Bacchus, as a just mixture of elegance and majesty.

The first habitation of mankind were cabins, grottoes, or caves. Virgil says, that before Troy and Pergamean citadels existed, men dwelt in the bottoms of valleys. Some of these early cavern-dwellings exist at Ispica, in Sicily; and, being the works of men little removed from a state of nature, are of the most remote antiquity. Gellio, son of Cœlus first invented mud-buildings, from a martin's nest; and Plutarch mentions cottages, as made of frame-

work and mud. Before the invention of brick-houses, by Euryalus and Hyperhius, caves were used. The flat roofs of the private buildings distinguished them from the publick edifices. All the chambers in the houses at Pompeii, and the best, those entirely painted, received light only by the doors. Neither the rooms nor houses have any kind of symmetry; even a Mosaick pavement has been seen to descend towards the door. The only house with two stories ever discovered, is at Pompeii. The stories consist of arches over each other.

The roofs of houses, among the ancients and eastern nations, are flat; and they often sleep upon them, and have gardens upon them. The Greeks gave the roof a small elevation in the middle; the Romans increased it to a fifth of the span. The Germans, and other northerns, make the roof an equilateral triangle.

Forums were places originally destined to negotiation, either of merchants or others, whose dealings took place in the open air. They were generally surrounded by a colonnade, over which was sometimes a second, for the convenience of those who wished to view the shows, for the forum was also the scene of the gladiatorial combats, before the invention of amphitheatres. Basilicæ were subsequently added, for the protection of litigants, and decision of causes under shelter. No city, however small, was without its forum. It was a market-place for all kinds of goods, whether of rusticks or citizens. Under its porticoes were exercised all sorts of trades, liberal, servile, or sordid; and within them were arranged the bankers' shops and coffee-houses. In the forum was also the senate-house, the curia for the assemblies of Augustals (similar to our common council) and priests for cognizance of sacred matters, the Comitia for assemblies of the people, the Ærarium, or Treasury, Record-office, and publick granaries.—*Fosbrooke.*

Winckelman, quoting the comedies of Plautus and Terence, observes, that Grecian doors opened outwards; so that a person leaving the house knocked first within, lest he should open the door in the face of a passenger, Hinges were not then in use; and at Rome, Pompeii, and Herculaneum, doors, even of marble, have at top and bottom pivots, which turn in sockets.

Rome was supplied with water by 13,594 pipes from the aqueducts.

Towns originally were fortresses, to which rusticks retired with their cattle, when there was danger from the incursion of enemies.

The Caaba, now the Temple of Mecca, was the ancient Temple of the Arabs, with 360 idols, one for every degree, and the statue of Hobab, with seven arrows for the planets. This worship was established by Saba, the eighth from Noah, who called himself Servant of the Sun, and was *Sabeanism*, which once extended over Asia. They built temples to the seven planets, the 12 signs, and 24 principal constellations. They reverenced the Book of Seth, who divided the zodiack, taught the aspects, assigned the virtues of the planets, &c. Job was of this country, and the chief race of their kings was called Tobba. Hence, in Job, the references to Arcturus, the Pleiades, &c. It is now called El Haram, or Inviolable. In the north-east corner is the tomb of Mahomet, surrounded by an iron-green railing, interwoven with inscriptions, in filigree of yellow bronze, of "La Illaha il Allah al hak al Mobyn," meaning "There is no God but God," in silver letters. The railing and its ornaments are so close, that there are small windows to look through. Persons of rank are permitted to go within the railing, where nothing is seen but a curtain, which covers a square building of black stones; in the interiour of which are the tombs of Mahomet, Abu Beker and Omar, the largest being Mahomet's. The coffins are below; and that of Mahomet is cased in silver, with an inscription, "In the name of God bestow mercy upon him." The stones, or tomb in the centre, have rich coverings. The curtain round them is 30 feet high, and these articles, when changed, are sent as a present to every new Grand Seignior to cover the tomb of his predecessor, and he returns new ones in exchange. On this subject how much Christian credulity, and

even philosophical credulity, have been abused by the monkish story about the loadstone, and the suspension of the coffin by one. Burckhardt, who gives the above description, says he was laughed at when he mentioned this silly legend.

The Caaba itself is a stone edifice in the temple, of extreme antiquity, and held in such sanctity that the Mahometans, in their prayers always direct their faces towards it. The floor is raised six feet, and a door and window admit light. They say it was built by Adam, and rebuilt by Abraham and Ishmael; and they show the place where he stood, now enclosed with iron; also the tomb of Ishmael, and a black stone, given by Gabriel to Mahomet. Every Mussulman must once visit the Caaba, and, in consequence, thousands of pilgrims visit it annually. The ceremonies are, walking seven times round the Caaba, kissing the black stone, &c. &c.; ceremonies used for ages before Mahomet by the Sabeans, but enjoined by him.

Barrow is the name of those circular mounds found in Britain and other countries, to record a burial on the spot. Their size is supposed to be proportioned to the rank and means of the party. The Kings of Egypt built pyramids. The largest in England is that of Silbury-hill, near Marlborough; in Scotland, they are called Cairns; and, in England, they have sunk to the modest grave. The Greeks made large barrows; but the largest, next to the pyramids, are those of the Kings of Lydia. One of these is three-quarters of a mile round. Even the savages in America erect similar monuments, and some of great size. In Scotland and Wales they are often made of stones; and the Jews had a custom of the kind. Those which have been opened in England contained skeletons, urns, and warlike implements. It has been supposed, that they were so placed as to serve as signal stations; but, perhaps, some of these may have been beacons, and not barrows.

Barrows are the most ancient sepulchres; but, lest the relicks should be violated by enemies, the custom of burning the dead commenced with Sylla, and did not fall into disuse till he time of Macrobius.

Sir Richard Hoare caused several barrows, near Stonehenge, to be opened in 1808. In them were found a number of curious remains of Cambrian ornaments, such as beads, buckles, and brooches, in amber, wood, and gold.

Adrian's wall, from the Forth to the Clyde, was built in 120, of turf. Antonius, another, in 140; and Severus, one of Stone, in 208. It had a ditch to the north 40 feet wide, and 20 deep, and the wall was 20 feet high and 24 thick. It extended 36½ miles, and joined 21 Roman forts.

The Picts' wall extends from Newcastle to Bowness, on the Solway Firth. It was originally of turf; but, in 416, was rebuilt of stone.

Caer-leon, or Caer-Llion, near Newport, in Monmouthshire, was, beyond question, a British city of considerable size and splendour. It is now reduced to a few houses; but the vicinity is covered with foundations, and the plough turns up numerous antiquities of all ages.

There are two periods in British architecture:—1. the Cyclopean; 2. the Roman. Of the former style, Stonehenge is the chief existing monument; and there can be little doubt but that this circle is the Temple of the Sun in Britain, mentioned by Diodorus. It is circular, as were all Temples of the Sun and Vesta. The adytum, or sanctum sanctorum, is oval, representing the mundane egg, after the manner that all those adyta, in which the sacred fire perpetually blazed, were constantly fabricated. The situation is fixed astronomically; the grand entrance, and that of Abury, being placed exactly north-east, as all the gates or portals of the ancient cavern temples were, especially those dedicated to Mithra, the Sun. The number of stones and uprights in the outward circles, making together exactly sixty, plainly alludes to that peculiar and prominent feature of Asiatick astronomy, the sexagenary cycle; while the number of stones, forming the minor cycle of the cove, being exactly 19 displays to us the famous Metonick, or rather Indian cycle; and that of 30 repeatedly occurring, the number of degrees in the signs of the Zodiack. Further. the temple being uncovered

proves it to have been erected full 500 years before Christ, before the age of Zoroaster, who first covered in the Persian temples. Finally the heads and horns of oxen and other animals, found buried in the spot, prove that the sanguinary rites, peculiar to the solar superstition, were actually practised within the bounds of this hallowed circle. The present Stonehenge was, no doubt, revived by Ambrosius about 460.

A green walk surrounds Stonehenge, made on purpose for the *Deasnil*, or going three times round it, a druidical custom, afterwards practised in Ireland even with regard to Christian churches.

There seems little reason to think but that stone circles were Cyclopean Temples of the Sun, founded before the invention of the orders; and, like all temples, used for publick purposes when necessary.

Cromlechs, or large stones, placed in the fashion of a table, but in an inclining position, upon others smaller, with or without stone circles annexed, are generally deemed altar-stones.

Rocking-stones are supposed to have been used in divination, the vibrations determining the oracle.

Diodorus Siculus speaks of the houses of the Britons as built of wood, the walls made of stakes and wattling, like hurdles, and thatched with either reeds or straw. (Wattled chimneys still occur in Wales.) Afterwards the dwellings were improved. Some set up strong stakes in the banks of earth, as well as large stones, rudely laid on each other without mortar. Strabo says, that the fashion was round, with a high-pointed covering at top; and Cæsar, that they resembled the Gaulish houses, and were only lighted by the door. That this was perfectly correct appears from the representations of them on the Antonine column, where they are either cylinders, with an arched lofty entrance, single or double, or exact fac-similes of great tea-canisters in grocers' shops; the orifice, where the lid shuts, being (according to Henry) for emission of smoke. Strutt says, that they were built at some distance from each other, not in streets, generally on the banks of a river for water, or in woods, &c. where forage might be found for the cattle. The prince chose the most convenient, and his followers erected theirs around, as well as stalls for the cattle; a ditch and mound of earth, or rampart, surrounded the whole.

Sammes, speaking of the first church of Glastonbury, says thus: "The walls of the church were made of twigs, winded and twisted together, after the ancient custome, in which kings' palaces were used to be built. So the King of *Wales*, by name Heolus Wha, in the year 940, built a house of white twigs, to retire into when he came a hunting into South Wales; therefore it was called Ty Guyn, that is, the *White House*, for he caused the twigs to be barkt. Castles themselves, in those daies, were framed of the same materials, and weaved together; for thus writes *Giraldus Cambrensis*, of *Pembroke Castle; Arnulphus de Montgomery* (saith he), *in the daies of King* Henry *the first, built that small castle of twigs and slight turf.*" Such *reed houses* as these we see in *Ireland*, and in many places in England.

As to the second period, the Romanized Britons in the time of Constantine, were builders of the best description, and built houses, temples, courts, and market-places in the towns, with every Roman accompaniment of Mosaick pavements, saloons, and porticoes.

British Castles were strong, fortified, very tall houses, built upon the top of a hill or mount, with gates and walls, both of brick and stone.

The Anglo-Saxon Castles consisted of a round or square tower-keep, ascended by a direct flight of steps in front.

The Danish Castles had round keeps upon conical hills, of clay, lime, or stone. The *fossatum* was generally a conical rising ground. The first entrenchment was made round the top, and the earth thrown round the hill. On the side of the fort which was lowest, they raised terraces and artificial banks.

Norman Castles were Anglo-Saxon, enlarged and improved into a *Gundulf Keep*, like that of Rochester, built by Bishop Gundulf, an eminent

architect. It was entered by a grand staircase, which went partly round two of the outside fronts of the castle, and ended in a grand portal, before which was a drawbridge. On the floor where was the principal entrance, there were no windows or lights whatever; not even loop-holes on the same side as the entrance and top of the staircase. The extreme inconvenience of including the offices of a large establishment in the narrow dimensions of a single tower, rendered it either habitable only as a temporary thing under warfare, or with adjuncts, as kitchens, suites of rooms, &c. The garrison, after defending the walls, upon their demolition fled to the keep. Hence old keeps were surrounded with a court of high walls, furnished with angular towers; and one of the corner towers was made of the strength and fashion of a keep.

Castles were divided into single, double, or treble, according to the ditches; and these ditches, of course, regulated the number of bridges. High artificial mounts are not indispeneable of Norman keeps. The gate-house had sometimes no less than three gates and two portcullises. Above the gateway was the guard-room, with a windlass for winding up the portcullis; and beneath it, a dungeon for imprisoning offenders. From the gate-house, a communication, within the wall, only wide enough for one man to pass, went round the whole fabrick.

A postern is a door into the ditch of a fortification. The garrison and servants slept upon trusses of straw, and were crowded together without any external communication with light or air. The towers, in which the ladies resided, were very obscure and safe; and they and prisoners of war took airings upon the leads. The sentinels on castle-ward had a horn, and watched both day and night, crying, upon alarm, "Treason." At night a guard was kept by listening, and even circumambulation of patroles. Under expectation of a siege, the gates were stopped up with casks filled with earth. All the horses were sent away, the dogs killed, the women and children lodged in the church, and the houses near the walls pulled down and covered with earth, to guard against the cannon. Archers, mixed with cross-bow-men and men-at-arms, were posted upon the gates and ramparts

The fortified castles, with which England was covered, previous to the order of the long parliament for their destruction, were chiefly built between the time of the conquest and the reign of Edward III. It is said, that, in Stephen's reign, between 80 and 90 years after the conquest, no less than 1115 had been built. They were places of security, in which the Norman usurpers and baronial oppressors might insult the people with impunity; and the same thing was done in Ireland so late as the age of Charles I.

Stone buildings, says William of Malmsbury, were deemed miraculous by the Britons, as thatched and wattled work obtained among them.

The Lancet arch is the oldest form of arch known in the east; and the *Ogee*, or pointed arch, with convex curvatures, is also common and ancient in the east. The lancet arch is also seen in aqueducts built by Trajan. Columns and intersecting arches (found in France at the end of the eighth century, and common here in the twelfth), occur in a Roman pavement found at Louth. The flat-pointed arch of the 15th century is twice seen at Pompeii, as well as the reeded column.—*Fosbrooke.*

Ancient Chinese bridges, of great magnitude, are built with stone arches, exactly like those which have been considered as a Roman invention.

The pointed arch appears, but not as a fashion, so early as the reign of Edgar. About the reign of Henry II. occur the pointed obtuse arch, and round the arch often intermixed or alternate.

In the beginning of the 13th century, the Gothick style seems to have been completely established. In this early style, the arches differed very much, but were usually sharply pointed; the windows long, narrow, and lancet-shaped, and frequently decorated in the inside, and sometimes on the outside also, with slender shafts, frequently with fascise round them, and the capitals with foliage.—*Lysons.*

The naves of churches were not always paved, whence the use of rushes, for warmth and better kneeling. Men used to stand on the right hand, or south side; women on the left, or north.

The nimbus, or glory, drawn by painters round the heads of saints, &c. was first used by the Cæsars and their flatterers.

Church-towers were originally parochial fortresses.

Monasteries had appendages to their churches of various kinds, as cloisters, the general resort of the monks, furnished with carrels, or pews for writing, and lavatories, where they washed; refectories, or fratries, large wainscoted halls, with a crucifixion above the boards, a dresser, almories or cupboards, windows opening into the kitchen, through which the meal was served, and desk with a Bible for reading during the dinner. Chapter-rooms, with rows of stone benches, one above another, a crucifix, a reading desk and bench, and higher seat for the abbot: Dormitories, long rooms, with wainscoted partitions for each bed, to every one a window, and in each window a desk to support their books.—*Fosbrooke.*

Stone crosses owed their origin to marking the druid stones with crosses, in order to change the worship without breaking the prejudice.

Timber, with lath and plaster, and thatch for the roofs, constituted the chief materials in the dwellings of the English from an early period till near the close of the 14th century and beginning of the 15th, when bricks began to be used in the better sort of houses.

The Britons had no bedrooms, but, according to the customs of the ancient Welch and Highlanders, slept on the floor on mats, in one common room. The bed-rooms and upper chambers of the Anglo-Saxons were vaulted, bolted, furnished with a chest and a round back chair by the side of the bed, adorned with silk palls and hangings.

Fire-places were arched hearths among the Anglo-Saxons. Mediastini were fire-places in the centre, and holes for the escape of smoke. At Cheveley-park, Cambridgeshire, is a fire-place in the form of pantiles. Reredosses, and chafing-dishes, were most usual till the general use of chimneys. Leland, speaking of Bolton Castle, built temp. Richard II. says, "one thynge I much notyd in the haulle of Bolton; how chimneys were conveyed by tunnels made on the syds of the wauls betwyxt the lights in the hawle; and by this means, and by no covere, is the smoke of the harthe in the hawls wonder strangely convayed."

Transparent windows were, in the time of Seneca, quite novel. Stubbs ascribes the introduction of stone and glass windows in England to Wulfrid, Bishop of Worcester, in 736

Bow-bridge, built 1118, is the first in England of stone; but those of wood, fortified with planks and mer lined, were common.

MODERN BUILDINGS AND MISCELLANEOUS ESTABLISHMENTS.

The first dwellings of mankind were natural caves, excavations in rocks, or holes in the ground, such as are now found in savage countries. The first structures were of wood and clay, then of rough stones, and, finally, of dried and burnt bricks. When building became a separate employment, ornaments and taste arose, in which every people pursued different systems. In Syria and Asia the oldest fashions still prevail. In the extensive city of Damascus, for example, the houses are of the colour of clay, resembling the meanest cottages in Britain, and built after the form of those at Jerusalem, of the most perishable materials, viz. bricks which have been dried not by fire, but the heat of the sun. During wet weather, the slough arising from them renders the streets almost impassable. Few of the houses have floors of wood. In building, the plan is to fix nails or pins of wood in the walls while still soft, to suspend domestick articles, since they are too frail to permit the operation of a hammer. There are few windows. The houses are flat on the roof like a terrace, which is spread over with a kind of plaster, and

made firm with a roller. Many of these are surrounded with mud-walls or battlements, four feet high, to prevent accidents. Several domestick offices are performed on these roofs, such as drying linen, flax, &c. Indeed, a person disposed to make his escape from any pursuit, might, by stepping from house to house, reach the walls of the city. The apartments in houses of a superiour class are in the back part, where the inmates are in a state of complete seclusion. There is a large quadrangular court, finely paved with marble, ornamented with plants and fountains of water. During great heats, a kind of awning, or veil, is spread over the top of these courts. The floors of the apartments are covered with carpets, with large couches like woolsacks, and pillows, where the Turks are seen reclining at their ease, smoking and indulging in every gratification. In front of the streets the houses have few or no windows, but appear like blank walls, similar to those in Jerusalem, in which there is a gate or wicket, so small as to require those who enter to stoop very low. They are secured with wooden bolts, and keys of the same form as those at Jerusalem. In Persia, &c. the houses in towns have flat roofs, with gardens on them, sleeping places, &c.

The Japanese build upon one floor, and their rooms are parted by their folding-screens, so that they can enlarge or contract them at pleasure.

John-o'-Groat's house, in Caithness, the most northern part of Britain, is celebrated from that circumstance, and from its being an octagon shape, with a large table in the centre to accommodate the eight branches of the builder's family, and prevent disputes about the upper and lower end, there being also a door leading to each side.

The Needle of Cleopatra, and Pompey's Pillar, are colossal objects, which have been celebrated for ages, and excited just admiration for exquisite workmanship and antiquity, and formed one solid block of red granite, originally conveyed from the quarries in Upper Egypt, near the cataracts, and situated close to the shore. They are each about 70 feet in height, from 180 to 190 tons in weight, and upwards of seven feet square at the base. The four sides are richly adorned with hieroglyphicks, sculptured one inch in depth.

Among the splendid tombs, in Agra, is that of the wife of Sha-gehan, which employed 20,000 artists and workmen for 22 years. It is of black and white marble, and has three platforms, with four towers, and a magnificent dome.

The Theatres of Paris, in 1829, yielded 6,159,703 francs, about 250,000*l.* sterling, or 800*l.* per night in 13 theatres. The proportional receipts of the Opera Comique were 7.6. Equestrian Theatre, 6.5. Academy of Musick, Theatre Français and Varieties, and Theatre de Madame, each 6. The Government for Publick Instruction and Morals, grants one million of francs to the Opera, and 540,000 to four others.

Two London Theatres Royal received 300*l.* per night for 200 nights, or 60,000*l.* The Opera, 50 nights, 800*l.*, or 40,000*l.*; and eight minor Theatres, for 200 nights, 150*l.* each, or 300,000*l.*

The Boxes of Drury-lane Theatre hold 1200 auditors; the pit, 860; the first gallery, 480; and the second 280; making, with performers, &c. 3000 in a full theatre.

The Italian Opera-house, London, will hold 1500*l.*

Drury-lane and Covent-garden Theatres, previously to 1790, held 400*l.* Since then they have been enlarged, so as to hold from 550*l.* to 600*l.* A third of the box audience consists of free admissions or orders. Pantomime and show-pieces, in the time of Garrick and Rich, cost from 2 to 3000*l.*; and latterly they have cost more, but pay best.

The Seraglio, at Constantinople, is on the eastern point. The area is 150 acres, enclosed with high walls. The entrance from the west is called the Sublime Porte, a name frequently given to the whole government. The second gate is called the Gate of Happiness, and in its splendid buildings are lodged from 5 to 600 females, guarded by eunuchs. There is also an old seraglio in the centre of the city, where are kept the wives and concubines of former sultans. At a short distance from the Sub

lime Porte stands the ancient Christian Church of St. Sophia, built by Justinian; and since the Mahometan conquest, in 1453, used as an imperial mosque. It abounds in curiosities. Its length is 269 feet, and its breadth 243 feet. Six of its pillars are of green jasper, from the Temple of Diana, at Ephesus; and eight of porphyry, from the Temple of the Sun, at Rome.

The country residence of the Russian sovereigns is 22 wersts, on the road to Novogorod, and is called the Czarskoselo. It is a large and very splendid palace, where the imperial family have resided for the last 70 years.

The Vatican, a magnificent palace, in Rome, is said to consist of 7000 rooms. It is advantageously situated on an eminence, one of the seven hills on which ancient Rome was built. The parts the most admired are, the grand staircase, the pope's apartments; and, above all, the vatican library, so beautiful a fabrick, that it is said it will admit of no improvement, and also the richest in the world, both in printed books and manuscripts.

The New Palace, in St. James's Park, was estimated at 432,926*l.* 450,000*l.* was granted, in 1824-5, for repairing and improving Windsor Castle, one of the noblest royal palaces in Europe.

But the most superb palace in Europe is that of VERSAILLES, about 12 miles from Paris, built by Louis XIV.; and next to it are the series of Parisian Palaces, the Louvre and the Thuilleries, all of vast extent and splendour.

Aranjuez is a palace of the Kings of Spain, 20 miles from Madrid. Its gardens are watered by the Tagus, and are very fine.

Lighthouses were erected by all ancient commercial people, and called *Tors*, or pillars, as those of Hercules, near Gibraltar; that of Pharos, at Alexandria, 550 feet high, and visible 42 miles; the Colossus, at Rhodes; the Pharos, of Messina, &c.

WORKS OF ART.

The principal painters of the Venetian School were—Titian, Georgione, Paulo Veronese, Tintoret, and Bassano. The Bolognese School consisted of the Caraccis, Domenichino, and their disciples. The chief Flemish Painters were Rubens, Vandyke, Rembrandt, Teniers, Vangoyen, Ruysdael, and Vanderneer.

The Founders of the British School were Thornhill, Richardson, Hogarth, Wilson, Gainsborough, Reynolds, Barry, and West.

The Artists of the French School were Poussin, Claude Lorraine, Vernet, and David.

The two great Painters of the Spanish School are Murillo and Velasquez.

The earliest known Painters are Cimabue, Chirlandao, Massacio Quintin Matys, and Albert Durer.

The greatest Painters, in order, were Raphael, Michael Angelo, Corregio, Leonardo da Vinci, Titian, Guido, Rubens, Rembrandt, Vandyke, Teniers, Murillo, Carracci, Claude, N. Poussin, and Carlo Dolce.

The oldest known painting is a Madonna and Child, in 886. The oldest known paintings, in England are the portrait of Chaucer, painted on pannel about 1390, and that of Henry IV., in 1405.

The English Painters, in the order of genius, are Hogarth, Wilson, Gainsborough, Lawrence, West, Reynolds, Martin, Turner, and Wilkie.

The Royal Academy was established in 1768, and consists of a president, 5 professors, 3 secretaries, 37 academicians, 17 associates, and 6 associate engravers. Their annual exhibition contains about 1300 subjects, and yields about 2000*l.* or 2500*l.*

The British Institution for the Fine Arts, in Pall-mall, was established in 1805.

There are also Royal Academies at Dublin and Edinburgh; and Associations for Exhibitions at Liverpool, Birmingham, Leeds, &c. &c.

London has a National Gallery of Master-pieces of all the Schools, and greatest artists in each. The pictures of Mr. Angerstein were its founda-

tion; and many others have been added since of great value.

There are two funds for artists.

The Panorama, invented by Barker, is generally about 60 feet in diameter.

Albert Durer etched some of his engravings on steel. A soft steel plate will take 20,000 good impressions, and a hard steel plate 100,000.

There were in London, in 1818, painters, 532; sculptors, 45; architects, 149; engravers, 2060; and they are, in 1831, 10 per cent. more.

Painting in oil, distemper, or water is when the colours are mixed with oil, size, or water. Fresco is on a newly-plastered wall. Encaustick, is with wax; and enamel, with mineral colours, on metal.

Varnish, for oil-paintings, is mastich, dissolved in spirits of wine. For other purposes, it is copal in spirits of turpentine, &c. The one may be rubbed off with the finger, as a white powder, the other not.

Androides, to perform human actions, have been made in all ages. Bacon made one to speak; and Albertus Magnus spent 30 years in making another. The Writing Androides is merely a pentograph, worked by a confederate out of sight. So also the Automaton Chess-player, and the Invisible Girl; but they are in general constructed of wheel-work. Vaucanson, in this way, made a Flute-player; Kempelen, the Chess-player and Speaking Figure. M. Mallardet and Mr. Hancock made many; and, while they display great contrivance, they draw large sums from the credulous.

Vaucanson made an artificial duck, which performed every function of a real one, even an imperfect digestion, eating, drinking, and quacking. A coach and two horses, with a coachman, footman, page, and a lady inside, were made by Camus, for Louis XIV., when a child. The horses and figures moved naturally, variously, and perfectly.

Cotton-spinning machinery, and manufacturing machinery in general, are merely varieties of these inventions of Androides and toy-makers; a central power, with axles, wheels, cogs, ketches, ratchets, straps, lines, levers, screws, &c. &c. variously combined, constitute the wonders of Lancashire Yorkshire, and Warwickshire.

LITERATURE AND EDUCATION.

Perception, memory, and reasoning by analogy are faculties common to all animals; and, according to their perfection, they create degrees of natural knowledge in the several genera. species, and individuals. But natural knowledge is personal and evanescent, without Records; while, by their means, the knowledge of one generation is added to another, and accumulates by a law of acceleration. The invention of conventional signs, characters, or letters, was therefore the first step to that accumulated knowledge which we now find in the world. The first examples were records of regal vanity; then their celebration in verse. The next, the regulation of reasoning in logick. The next, the observed motions of the heavenly bodies. The next, arithmetick and geometry. The next, geography, chronology, and history. The next, observations of nature, and the investigations of causes. But the free play of intellect proving injurious to monopolies of power, and the selfish advantages of superstition which had obtained ascendancy before the invention of letters, these have always been opposed to the advance of knowledge, and have either limited or neutralized inquiry. The age has therefore not yet arrived, when the pursuit of knowledge is perfectly free; and advancement has hitherto been determined by limits authorized by power, or by prejudices inculcated by power, and operating directly or insidiously, so as to say to all pursuers of knowledge, —thus far mayest thou go, but no further.

Troth, the Egyptian, who invented writing, perhaps hieroglyphicks, lived between the years 2000 and 2500 B. C. But Josephus says, he had seen inscriptions by Seth, the son of Adam. If so, then Troth, or Hermes, were not the inventors of writing, or Josephus must on this, as on many subjects, be fabulous.

The first letter of the Phœnician and Hebrew alphabet was *Aleph*, which the Greeks called *Alpha;* and the moderns, by abbreviation, A. They also used them to count; and, it is curious that *tau*, used by them for 100, is, in the games of English school-boys, the name of a white marble, worth many common ones. The word Alphabet is the names Alpha, Beta, just as we say the A, B, C. The Hebrew language and letters are believed to be derived from the Phœnician, since Tyre, Sidon, &c. were distinguished cities in the age of Moses and Joshua; even Abraham lived in their territory.

Sanscrit is the basis of Hindoo learning, and said to be the first character. It is taught at Benares by pundits, or doctors; and the pupils read the Puranas, or abridgements of the law, and study philosophy, like that of the Greek schools.

The Hindoos have no less than nine sects of philosophers, whose principles embrace all the metaphysicks and speculations of the Greeks, and the objects of controversy among modern Europeans. Three of them are atheistical, and six are partly materialists and partly spiritualists in certain shades of difference. No justice is done to their profundity in the crude or partizan reports of Europeans.

The Welsh language, always regular and significant in its monosyllables, uses the word *pen*, to signify the top; *mawr*, great; *tre*, for a house; *aber*, for the confluence of rivers; *Avon* for a river; *care*, for a fortification; *Llan*, an enclosure; *ys*, pronounced *us*, for lower; and *uwch*, for upper; *coed*, for a wood; *cum*, pronounced *coom*, signifies a deep valley; and *yr*, pronounced *ur*, is the article—the; and its constant repetition leads to the vulgar jokes about the *yr* or *ur*. Their nouns have no cases.

The Welsh, or Bardick alphabet, consisted of 16 primitive or radical characters, and 24 secondary ones, formed by cutting letters on a stick in a triangular or square form.

The most ancient Arabick, called the Kufick, is so named from Kufa, on the Euphrates, and not now in use. The modern Arabick was invented by the Vizier Molach, A. D. 933, in which he wrote the Koran three times.

Armenian is used in Armenia, Asia Minor, Syria, Tartary, &c. It approaches the Chaldee or Syriack, and the Greek.

Chaldee, Phœnician, or Syriack, ascribed to Adam, Enoch, Noah, Abraham, and Moses, is the same as the Hebrew.

The Coptick is an alphabet so called from Coptos, in Egypt, a mixture of Greek and Egyptian. The characters of the ancient Egyptians were of three kinds, vulgar, sacred, and hieroglyphick.

Ethiopick, or Abyssinian, is derived from the Samaritan or Phœnician.

The Etruscan was the first alphabet used in Italy, so called from the Etrusci, the most ancient inhabitants.

Gothick, the most ancient characters under this name, are attributed to Bishop Ulphilas.

Cadmus, the Phœnician, introduced the first Greek alphabet into Bœotia, where he settled, B. C. 1500; though Diodorus says the Pelasgian letters were prior to the Cadmean. But it is evident that the Cadmean and Pelasgiack, and Phœnician, had the same origin.

The Samaritan, or Phœnician, was the original Hebrew character; and the present alphabet was invented after the captivity.

The Irish alphabet is the Phœnician.

The Greeks called the Phœnicians *Pelasgii quasi Pelagi*, because they traversed the ocean, and carried on commerce with other nations.

Scaliger supposes the Phœnician to have been the original Hebrew character, otherwise the Samaritan, which is generally supposed to be that which was used by the Jews from the time of Moses to the Captivity.

The alphabet of the Sanskrita, is called the Devanagari.

The Oriental Alphabets are Hebrew, ancient, modern, and rabbinical. Samaritan, ancient and modern. Phœnician. Syriack, ancient and modern. Egyptian, hieroglyphick. Chinese, characters.

The Greek Alphabets were Cadmean, Pelasgian, Sigean, Nemean, Delian, Athenian, and Teian. Also Ionick, or alphabet of Simonides.

The alphabets derived from, or allied to, the Oriental Alphabets are, Cufick, Arabick, Persian, Saracen, Ethiopick, Mendean, Malabarick, Mantchou Tartar, Sanscrit, Japonese, Thibetan, Rejang.

The Alphabets derived from the Oriental or Greek Alphabets are, Ancient Irish, Bobeloth and Bethluisnon. Ogums, namely, Croabh and O'Sullivan's Coptick, Armenian, Georgian, Dalmatian, and Russian.

The Northern Alphabets are, Gothick, ancient, modern, and Mæso-Gothick, Runick. Welsh. Saxon, ancient and modern. Teutonick. German, printing and current. Flemish. French, ancient and current. Norman and Anglo-Norman. Bastard, ancient and round. Lombard. Charlemagne. Black Letter. Chancery, round and running. Court Text. Church Text.

The Alphabets of different nations contain the following letters: —

English	26	Greek	24
French	23	Hebrew, &c.	22
Italian	20	Arabick	28
Spanish	27	Persian	32
German	26	Turkish	33
Sclavonick	27	Sanscrit	50
Russian	41	Chinese	214
Latin	22		

In the west, letters were invented by Thaut, a Phœnician, son of Misraim, and also called Hermes and Mercury. But, it is believed, that he only modified the older Sanscrit Alphabet, which was brought from the east by the commercial Phœnicians. The Sanscrit contains 16 vowels and 34 consonants, and is the parent of most of the Oriental alphabets, even of the Greek.

T. Sheridan reckoned 28 simple sounds, and proposed a new alphabet of 9 vowels and 19 consonants.

An alphabet of 13 letters has been proposed,—the five vowels and the consonants b, g, d, l, m, n, r, s.

During six or seven centuries the Latin tongue prevailed in all publick proceedings, from the Tweed to the Euphrates, and from the Danube to Mount Atlas; and the language of the rapacious Roman conquerors has been more or less retained by servile classes even to this day.

Adelung, the celebrated German philologer, was born in 1734, and died at Dresden in 1806. His German Dictionary is the standard of the language. In his general history of languages, he gave specimens of the Lords Prayer in 500 languages and dialects.

The oldest authentick date in numeral characters is 1375, written on the leaf of a book by Petrarch; and they appear to have travelled into Europe, through Arabia, from India; but when invented is not known. The oldest treatise on this arithmetick in Sanscrit, is called *Lilawati*, and written about 1185. At first, in Europe, it was written in the Arabian manner, from left to right, beginning with 0 and ending with 1.

Smart calculated 20,410 noun substantives in Johnson's Dictionary, 9053 adjectives, 7880 verbs, and 2592 adverbs. Todd and Taylor have increased these full half, making about 60.000 words in the English language.

Horne Tooke, in his fanciful theory, endeavours to make it appear, that *if* is derived from the Saxon *giffan*, to give; *but* from *botan*, to boot; *yet* from *getan*, to get; *though* from *thaffigan*, to allow; *unless* from *mielsan* to dismiss

There are two languages spoken in Germany, one called Low Dutch and the other High German. The former prevails in Westphalia, Prussia, Lower Saxony, and on the coast; the other is spoken on the Rhine and Danube.

A Cherokee, named *Sus-gue-jah*, about 1820, invented an alphabet of the Cherokee language; and also Digits for numbers, to effect the purposes of "the speaking leaf," but without any knowledge of other characters or digits.

The English, in pronunciation, dwell on, or accent consonants; the Scotch on vowels; and the Irish have a rising and falling inflexion, or accent.

The nine Muses are—Clio, or Glory·

Euterpe, pleasure; Thalia, flourishing; Melpomene, attracting; Terpsichore, rejoicing; Erato, gentle; Polyhymnia, variety; Urania, celestial; and Calliope, sweetness. These ideas serve painters, and help the measure of lame poets.

Anciently odes were divided into Strophe, Antistrophe, and Epode. The Epopœia is the subject.

The figures of Rhetorick are similes, metaphors, allegories, and personifications. Some forms of expression are also called figures, as irony, antithesis, climax, apostrophe, hyperpole, &c.

Heroick measure, in English poetry, is ten syllables. Iambick verse, is when unaccented syllables alternate with accented. In Anapestick verse, the accent falls on every third syllable.

A dactyl is one long and two short syllables; a trochee, is one long and one short; a spondee is two long syllables; and iambicks are like trochees. There are 28 feet, or metres, consisting of two, or three, or four short and long syllables. Hexameter verse is of six feet, the first four, dactyls or spondees, the fifth a dactyl, and the sixth must be a spon dee. Pentameter is five feet. The two first dactyls, or spondees; the third a spondee; and the two last anapesta, or two short and one long syllable.

A syllogism is a process of reasoning from a general or *major* proposition by a *minor* one, and affirming or negativing the assertion in the *major* as to the *minor*, in a *conclusion* or inference. Equivoques in the use of words, in the major or minor, lead to sophistical conclusions, and to the endless confusions of opinions.

Syllogisms have four figures—1. When the middle term is the subject of the major proposition, and the predicate of the minor. 2. When the middle term is the predicate of major and minor. 3. When the middle term is the subject of both. 4. When the middle term is the predicate of the major, and subject of the minor. Each figure, also, has its moods. Syllogisms are also conditional, disjunctive, &c. &c.

Every proposition consists of a subject and predicate, and of a connecting word called the copula, either affirmative or negative.

The predicate is that which is affirmed or denied in any proposition.

The classes of Sophisms or false reasoning are—

1. *Ignorantio Elenchi*, or a mistake of the question.

2. The *Petitio Principii*, taking for granted what is to be proved, or *arguing in a circle.*

3. The *non causa pro causa*, making that a cause which does not exist at all, or in the case in question.

4. The *fallacia accidentis*, drawing general conclusions from accidental circumstances.

5. A *dicto secundum quid, ad dictum simplicitur*, a general deduction from particular circumstances; or a general truth applied to all circumstances. Another sophism arises from the ambiguity, or double sense of words.

A *genus* is a general resemblance, as, that of the horse, ass, mule, zebra, is one genus; so oxen, buffaloes, bisons, &c. are another genus; and, of these, the horse, the mule, ox, &c. are species.

Every oration, or argumentative discourse, consists really or covertly of an *exordium, question, narration, argument, refutation, conclusion*, and *peroration.*

Bards, among the Druids, were professional poets; and, among all ancient people, such employments were recognised, and connected with religion, prophecy, and musick. Among the Jews this class were called Prophets, and their compositions called *Prophecyings.* The Greeks called them Ubates; the Romans, Vates; and the Britons, Bards. Ossian speaks of a prince who kept 100 bards. Chief-bards wore sky-blue garments; and, the most distinguished, a silver chain. Even Alexander the Great was accompanied by a bard named Cherylus, who was to have a piece of gold for every good verse, and a blow for every bad one.

The first Greek writers were Homer and Hesiod, 1000 B. C.; and Tyrtæus and Archilochus, in 700; and Alcæus, Sappho, and Anacreon, in 600. The first Latin writers were

Plautus, Ennius, and Terentius, in 200 B. C. The first British, Gildas, Nennius, and Bede, in 500 and 600. The first German, Eginhard, Wallafrid and Rabanus, in 800. The first French, Fort, Gregory, and Maralfe, in 500. The first Spanish, Anian, Fulgentius, and Martin, in 500. The first Polish, Yaraslof and Nestor, in 1000. The first Italian, Gratian, Falcand, and Campanus, in 1100.

The Poems of Homer were chiefly traditional and oral, till Pisistratus collected them in writing 4 or 500 years after the age of the poet, just as Ossian was collected by Macpherson. In the east, it is believed that there are not a dozen copies of the Shastah, Vedah, and Zenda Vesta. In 1400, there was scarcely a book in Rome but missals.

The works of Homer are supposed to have done great injury to mankind, by inspiring the love of military glory. Alexander, was said to sleep with them always on his pillow.—*Darwin.*

The printing-press has been unfavourable to the perfection of modern books. An author prints a large edition, and often has no opportunity of correcting; but every copy was an edition to an ancient author, and he had as many opportunities of revising as there were copies made. This explains the precision of the classick authors, which would be increased by the taste of learned copyists in after ages.

The utility of printing, as far as regards the progress of truth, is counteracted by the great expense of setting the types; for, as all books sell best which flatter prevailing opinions and support vested interests, and as they are printed chiefly at the risk of traders, who print for sale and profit, so few (very few) printed books contain the whole truth, and nothing but the truth.

Before the art of printing, books were of incredible price. From the 6th to the 13th century many bishops could not read, and kings were scarcely able to sign their names; and hence the use of seals and sealing. These were the ages in which superstition, witchcraft, and priestcraft obtained so universal an ascendency. From 500 to 1200 all learning was in the hands of the Arabs Saracens, and Chinese. Copying was, in ancient Greece and Rome, a productive employment; but it afterwards fell into the hands of the monks, who copied chiefly theology. A good copy of the Bible, on vellum, employed two years; and the works of either of the Fathers still more time. Jerome states, that he had ruined himself in buying a copy of the Works of Origen. Of course, copiers altered and vitiated, corrected the language, interpolated, &c. according to their honesty, taste, faith, or party; and hence the endless controversies among criticks and theologians about words, phrases, and paragraphs. It thus appeared, that, at the Council of Nice, in 325, there were 200 varied versions of the adopted Evangelists, and 54 several Gospels preserved in various Christian communities, but so scarce that no Roman historian or writer appears ever to have seen them.

Books were originally boards, or the inner bark of trees, the word being derived from *Bench*, a Beech-Tree. The Horn-Book, now used in nurseries, is a primitive book. Bark is still used by some nations; skins are also used, for which parchment was substituted. Papyrus, an Egyptian plant, was adopted in that country, and an article of commerce; thin plates of brass were also used for church service. The papyrus and parchment books were commonly rolled on a round stick, with a ball at each end, and the composition began at the centre, the outer fold being its termination; these were called volumes. The outsides were inscribed just as we now letter books. The MSS. in Herculaneum, consist of papyrus, rolled and charred, and matted together by the fire, and are about nine inches long, and one, two, or three inches in diameter, each being a volume or separate treatise. Of course, as books were scarce, and the art of reading uncommon, they were very dear. The bequest of one to a religious house entitled the donor to masses for his soul, and they were commonly chained to their station; while, in some ancient libraries, the books are chained to this day. As specimens of the prices of books, the *Roman de la Rose* was sold for above 30*l.*; and a Homily was exchanged for 200 sheep and five quar-

ters of wheat; and they usually fetched double or treble their weight in gold. When the passion for reading increased, the business of copying became considerable, and copyists enjoyed great reputation, according to their learning and accuracy. Hence they took it on themselves to purge and improve authors; and to this cause may be ascribed the precision and mechanical perfection of the classick authors, for the copyists plumed themselves on not transcribing imperfections. This advantage was, however, counteracted by the principles which governed them; and hence the first printers were also criticks, like the copyists.

The modern names of sizes of books are derived from the folding of paper; when the sheet is not folded it is called a folio, and this size was very fashionable through the 16th and 17th centuries. The folio sheet doubled, becomes a quarto, and this has been thought the most convenient form; another double constitutes the octavo, of eight leaves, or 16 pages; another double, the square 16mo. The sheet folded into twelve leaves, is called a duodecimo; into 18, an octodecimo, or 18mo.; and then doubled again, becomes a 24mo. or 36mo.

The first printed books were trifling Hymns and Psalters, with images of saints, and, being printed only on one side, the leaves were pasted back to back. One of the first was the Biblia Pauperum, of 40 leaves, which, pasted together, made 20. An entire Psalter was printed, in 1457, by Faust and Schoiffer; and a Bible, in 637 leaves, in moveable types, was printed at Mentz, between 1450 and 1455; but the most important part of the invention (that of the moveable types) is uncertain, both as to name and date. The first characters were Gothick; and Roman type was first used in 1467.

Some writers give the invention of printing to Guttenberg, of Mayence; while others ascribe it to Faust, (often called Dr. Faustus), of the same city; and others to Lawrence Koster, of Haerlem. The copyists made so great a clamour, that the parliament of Paris at first, to oblige them, caused all printed books to be seized.

Printing by blocks was an extension of the art of seal engraving which had been carried to great perfection in broad seals. The first printed sheets were worked only on one side of the paper, and the impressions produced by a plane and mallet. The ordinary printing-press was first made by Bleau, at Amsterdam; the first types were cast in England, by Caslon, in 1720. The printing-machine was first suggested by Nicholson, in 1790; and stereotype printing was used in Holland during the last century. The rollers for inking the types were the suggestion also of Nicholson. Stereotype printing was introduced into London, by Wilson, in 1804. The last adopted improvements have been the Stanhope press, and the Columbian press.

Caxton was the first English printer, and his printing-office was in the Chapter-house of Westminster Abbey. He learnt the art in Germany, and was liberally patronized in England. The first book printed by Caxton was in 1471, and bore for its title, "*Willyam Caxton's Recuyel of the Historyes of Troy, by Raoul le Feure.*" While the bibliomania prevailed, a copy was knocked down, at auction, for 1060*l.* 18*s.*

Foreign printers call types by different names from those in England, thus our Pica is their Cicero.

A sheet of type is about 120 lbs., or 60 lbs. to a form. The proportions in founts, as of 100,000 letters in English, would be 5000 a; 3000 c; 11,000 e; 6000 i; 2000 m; and of k, q, x, and z, not above 30.

Antimony is a metal with a specifick gravity of 6.702, which alloyed with lead, makes types.

England is the only country in which books are advertised, and this expense adds 30 per cent. to their price. In France, two copies are sent to about 20 journals, and their notice is the sole advertisement, besides the publick voice. In England the publick voice is surrendered to advertisements and puffs in every form, aided by mock criticisms.

Trade in books has multiplied them in modern times. There are now printed, annually, about 1000 books and pamphlets in the United Kingdom, besides 120 periodicals

twelve times a year; 20 others, 52 times; 12 quarterly, and 300 several newspapers. In France, the new books and pamphlets are about 1500 per annum.

Books and paper were formerly sold only at stalls, and the dealers therefore were called *Stationers*.

The largest impressions of any single book were those of Moore's Almanack, a proof of the prevalence of superstition. For many years, during the late wars, when political excitement was excessive, the Stationers' Company sold from 420 to 480 thousand copies per annum of Moore's Astrological Prophesying Almanack. About 50 years since, the Company resolved no longer to administer to this gross credulity, and, for two or three years, omitted the predictions, when the sale fell off one half; while a prognosticator, one Wright, of Eaton, near Woolstrope, published another, and sold 50 or 60,000. To save their property, the Company engaged one Andrews, of Royston, also a native of Woolstrope, to predict for them, and their sale rose again as above. The Company have three or four prophesying almanacks, and three or four of rational and scientifick character; but the sale of the former is, to that of the latter, as twenty to one.

The editions of books run by two hundred and fifties, every 250 being the mode of charge by printers. Few books pay for setting the types at less than 500, which, therefore, is the common edition of ordinary books. Others run 750, 1000, or 1500. School-books and others, in small type, demand 2 or 3000. And, of many modern school-books, under the names of Blair, Goldsmith, Barrow, &c. 10 or 15,000 have been printed per annum for a series of years. Of Paine's Rights of Man, 150,000 were sold within twelve months; and 30,000 of Burke's Reply. In France, editions are larger than in England, owing to the demand in foreign countries. Three-fourths of the books printed do not pay their expenses; and not above one in ten realizes a profit.

There are about 4500 booksellers, and venders of books, in the United Kingdom.

The fame of most writers is very ephemeral, chiefly owing to their choice of subjects of the day, or the age or nation. English literature does not preserve above eight or ten authors before the age of Shakspeare; not above 20 from Shakspeare to Addison, and scarcely 50 from the age of Addison to the year 1800. Since the days of Elizabeth one or two books, or pamphlets, per day have been printed; but the subjects were obsolete theology, forgotten politicks, or superseded philosophy, and the majority in bad method or bad taste. It has been the same in France, Germany, Italy, and Holland; and doubtless, was the same among the ancients, though we so often lament the loss of ancient works.

The decline of literature, in England has been accelerated, or caused by a passion for novel reading, which deprives all other studies of their reward. It resembles the Roman literature in the decline of the empire; and, for some years past, few books but novels have paid their expenses. A good novel yields its author 1000*l.* or 1500*l.*; and Dr. Johnson's high price for his Dictionary, was but 1575*l.* A novel, written in two months, will yield its author 400*l.* or 500*l.* as a current speculation; and England has, therefore, become a nation of superficial novel writers and readers.

The *Constitutionel* French paper sells between 14 and 15,000 per day. The *Gazette de France* above 9000; and the *Journal des Debats* nearly 9000. The other papers, in October, 1830, were below 5000; and the *Moniteur* not 1500. Owing to the stamp, and the consequent high price, no daily London paper sells above 9000; and the chief part not above 1500. Some of the Sunday papers sell from 10 to 15,000.

Stamps used for London papers in 1829.

Times and Mail . .	3,275,311
Herald & English Chron.	2,000,475
Chronicle, and four others	2,333,450
Morning Post . .	598,500
Courier . . .	995,200
Globe	864,000
Sun	625,000
Star	593,000
John Bull . . .	337,500

Bell's Messenger .	566,000
Ditto Despatch . .	780,552
Literary Gazette only	70,430
Cobbett	176,500
Atlas	246,200
Age	256,000
Sunday Times, &c. .	477,003
News	253,000

In 1831, the Herald, Star, Age, and Atlas have considerably increased in sale, and may now be taken at 25 or 30 per cent. higher. The Literary Gazette, by these returns, has the lowest sale of the whole, and appears to be eleven times less than the Despatch.

The Age and Numbers of the Newspapers of London, on February 1, 1831:

Morning Herald	65 years	20,702
Morning Chronicle	61 ditto	19,167
Times	46 ditto	14,501
Star	43½ do.	13,097
Morning Advertiser	39½ do.	12,409
Courier	39 ditto	12,326
Sun	38 ditto	11,978
Globe	28 ditto	8,821
British Traveller	19 ditto	5,974

The Dublin papers consumed, in 1830, 2,262,513 stamps. The highest, daily, were the Evening Mail, 439,000; Saunders' News Letter, 434,500; The Evening Post, (three per week), 293,350; the Evening Packet, 198,172; the Morning Register, daily, 196,300; the Weekly Register, 154,860.

The newspapers in the United Kingdom are about 340 per week, and their average sale 120,000 per day, consuming 87,600 reams; and the 150 periodicals consume about 30,000 reams. The stamp-duty on these papers, in 1829 was 509,546*l.*; and the duty on the paper only was above 30,000*l.* In France, in 1828, the sale was 144,000,000 or 288,000 reams. The reams of paper, stamped for the periodical press, in 1820, was 50,717 reams. North America, in the year 1720, possessed no more than seven newspapers; but, in 1820, the United States had 359; and, 10 years subsequently, the number had increased to 740.

Regiomontanus made the first Almanack in 1474.

The English Periodicals have a large circulation, nearly as under, in 1831:

Evangelical . . .	9000
Armenian	13000
Blackwood's . . .	5000
Frazer's	3000
New Monthly . . .	2000
Monthly	750
Gentleman's . . .	2000
Ladies'	1800
Englishman's . . .	1500
Metropolitan . . .	1800
Quarterly Review . .	8000
Edinburgh . . .	3500
Westminster . . .	2500
Loudon's	2100
Medical	500
Philosophical . . .	500
Monthly Review . .	500
Brande's Journal . .	600
Brewster's Journal . .	750
La Belle Assemblée . .	1000
Christian Observer . .	4000

There were, in 1830, printed in London, daily or weekly, 54 distinct newspapers; and, in England and Wales 154 others. The whole number of papers which they sell in a year, is 25 millions. The 208 in England, and 36 in Scotland, make 346 publications per week; and, in a year, 17,200 several separate publications, which gives an average of 1400; but about one-tenth publish treble this number; one-tenth, double this number; two-tenths, a fifth this number; another two-tenths, about 1000; so the other four-tenths sell from 750 to 500, or average 625. Clement, proprietor of the Morning Chronicle, Englishman, Observer, and Life in London, sold 2¾ millions of those papers only per annum, and paid, in stamps and duties, not less than 1000*l.* per week.

In 1829, the clerks of the roads transmitted, from London, 1,207,794 newspapers; and 316 daily papers abroad; while the various venders transmitted 10,654,912.

The 25 millions of newspapers, sold annually in England, consume 100,000 reams of paper; and these 346 several publications give constant employment to ten persons on each, as editors, printers, publishers, &c. &c. In London, about two-thirds of the matter in each is printed from MS.: in the country, about

two thirds is transferred from the London and other papers.

The *United Kingdom*, one of the largest of our Sunday papers, so called, is worthy of its object in its own unequalled dimensions. Every page contains seven columns, and is 24½ inches long by 19½ wide, containing 480 square inches per page. The four pages contain therefore, 1,920 square inches, and every square inch, on the average, 32 words! Hence this surprising sheet contains above 60,000 words, sold for 7*d.*, or 2150 words for every farthing.

The word *Gazette* is derived from the name of the Venetian coin, which was the price of the first newspaper.

The London Gazette was commenced, at Oxford, on November 7, 1665; the Court then residing there, on account of the plague.

The first regular critical journal was the Journal de Sçavans, began in 1665, and continued for nearly a century. The first, in England, was called the Waies of Literature, which commenced in 1714, and was discontinued in 1722; and the present state of the Republick of Letters began in 1719.

Various Periodical Miscellanies were commenced in the reign of Queen Anne, and continued for various periods. Cave took up an old title in the Gentleman's Magazine, in 1731; and, in 1732, the London Magazine was begun.

The total number of new publications, in the year 1812, in London, was 693; and their cost, in boards, 230*l.* They have since increased to 800, at a cost of 400*l.*, for one copy of each.

Reviews of Books, under the false pretence and colour of criticism, are usually written by the friends or enemies of authors, or of the publishers of the works, and are trading frauds, which now delude only the ignorant. No such opinions can have any authority without the known name of a responsible critick. Nevertheless a malignant spirit in readers who often delight in slander, occasions the most vituperate anonymous criticisms to be most read and patronised.

The following French Periodical Publications were sent daily by the post, in February, 1831.

DAILY.	*Subs.*
Moniteur	2224
Constitutionnel	15400
Debats	8882
Gazette de France	10019
Courier Français	3930
Le Temps	6596
Quotidienne	4810
Le National	2919
Le Messager	1328
Galignani's Messenger	1308
Commerce	1303
Gazette des Tribunaux	1279
L'Avenir	1688
Le Globe	1270
L'Ech Français	1154
Figaro	668
La Tribune	564
La Révolution	552
Journal de Paris	223
Courier de l'Europe	750
PERIODICAL.	
Courier des Electeurs	2520
Journal de l'Enregistrement	1060
Journal des Maires	6374
Le Cabinet de Lecture	402
Journal des Dames	1076
Petit-Courier des Dames	1771
Le Voleur	1111
Le Correspondant	1300
L'Echo des Halles	1030
Gazette des Tribunaux	301
L'Ami de la Religion	780
La Feuille Française	340
La Caricature	235
Gazette Médicale	422
Journal de la Librairie	265
Journal des Salons	280
La Mode	586
Revue de Paris	360
Revue Britannique	752
Idem Encyclopédique	297
Idem Médicale	287
L'Ami de la Jeunesse	360
Archives du Christianisme	420
Idem de la Médecine	410
Société d' Encouragement	220

The numbers circulated in Paris *about a third more.*

There are, by other accounts, in Paris, 152 journals, literary and religious; and 17 political. One hundred and fifty-one are liberal, having 197,000 subscribers; and, the other 18 have 21,000. There are 75 provincial journals, with 99.000 sub-

scribers. In all, 244; with 317,000 subscribers.

In 1829, the British and Foreign Bible Society had circulated, in 25 years, 11 millions of copies of the Jewish Scriptures, in 150 languages; and, in 1828, 365,424. Hence, as each book contains 30 sheets, this would make 330 millions; and they have therefore expended 660,000 reams of demy paper, duty free, at 20*s.*; and also as much more in printing and editing, or above a million sterling, in paper and printing, besides 1*s.* 6*d.* for binding, making another 825,000*l.*

The issue by the London Society, during the year 1830, had been 325,453 Bibles and Testaments at home, and 108,829 on the continent; making, altogether, a total of 434,422 copies. The income had been 84,982*l.* 5*s.* 11*d.*; and the expenditure amounted to 81,610*l.* 13*s.* 6*d.*

The early Chinese literature suffered a similar misfortune to that of the west in the destruction of the Alexandrian Library; for their Emperour, Chee-whang-tee, ordered all writings to be destroyed, that every thing might begin anew as from his reign; and their books and records were afterwards recovered by succeeding emperours with great difficulty. So the Musselmen conquerors of Hindostan destroyed the chief part of the most ancient writings.

In Thibet, there is a Cyclopedia, in 44 volumes; and lithography has been practised there from time immemorial.

At Stevens's sale, the first edition of the Merry Wives of Windsor sold for 28*l.*

The Bible, used by Charles I., at his execution, is preserved in the Royal Library, at Berlin.

It has been stated, that the six largest libraries in Europe contain the following number of volumes and MSS.:—

	Volumes.	*MSS.*
Royal Library of Paris	450,000	77,000
Bodleian, Oxford	420,000	30,000
Munich University	400,000	9,000
Vatican, at Rome	100,000	40,000
Gottingen University	300,000	5,000
British Museum	500,000	120,000

Besides the Museum, there are the undermentioned in England:—Cambridge University; Advocates', Edinburgh; Sion College; and Dublin University; and, in London, the Library of the Royal Institution, the London Institution, and five or six others.

The Advocates' Library, at Edinburgh, contains 100,000 volumes, besides ancient MSS., and a cabinet of scarce and valuable medals.

Italy had, in the 15th century, so many associations, like our societies, called Academies, that there were 550 for general or particular pursuits. The French imitated the Italians in the 16th and 17th centuries; and, in the 17th and 18th, the English imitated both, in the Royal and other Societies; and of late they have been so extended, as, perhaps, to equal the Italian societies in number. They spread knowledge, but subdue original thinking by the deference to existing authorities. In Italy, therefore, no new discoveries are traceable to them; and, in England, the distinction in numerous ones consists in merely knowing the current knowledge repeated in books.

Academia della Crusca, was founded in	1582
——— del Cimento	1610
——— Bononiensis	1690
L'Academie Françoise	1635
——— de Peinture et de Sculpture	1648
——— des Inscriptions et Medailles	1663
——— R. des Sciences (Institute)	1666
R. Academy of Sciences at Berlin	1700
Royal Society of London	1665
R. Spanish Academy	1714
R. Academy of Sciences at Lisbon	1779
Petersburgh	1725
Stockholm	1741
Copenhagen	1742
The American Academy, Boston	1779
The Royal Irish Academy	1732
The Academy of Ancient Musick	1710
The Royal Academy of Arts	1768
Royal Military Academy Woolwich	1741

The French Academy was created by Louis XIII., in 1635. Its original pursuits were Eloquence and Poetry. In 1648, it was extended to the Fine Arts; and, in 1666, by Colbert, to the Arts and Sciences.

The following is a list of the principal Literary Societies in the United Kingdom, with the fee on admission, and the initial letters distinguishing the members:—

Royal Society, 50*l.*, F.R.S.
Royal Society of Edinburgh, 25*l.* 4*s.*, F.R.S.E.
Royal Academy of Dublin, 26*l.* 5*s.*, M.R.I.A.
Royal Society, Literary, 36*l.* 15*s.*, F.R.L.
Antiquarian Soc., 50*l.* 8*s.*, F.A.S.
Linnæan Society, 36*l.*, F.L.S.
Geological Soc., 34*l.* 13*s.*, F.G.S.
Astronomical Soc., 25*l.* 4*s.*, M.A.S.
Zoological Society, 26*l.* 5*s.*, F.Z.S.
Royal Institution, 50*l.*, M.R.S.
Royal Asiatick Society, 31*l.* 10*s.*, F.R.A.S.
Horticultural Soc., 48*l.* 6*s.*, F.H.S.
Medico Botanical, 21*l.*, F.M.B.S.

In 1827, only 109 of the 1150 F.R.S. had contributed to the Transactions: and, of these, 11 only had titles.

The Royal Society of London is governed by a president and 18 council, with about 1000 members. The Royal Society of Edinburgh has a president, five vice presidents, and literary and physical councils.

The Antiquarian Society was established in 1751; and there is another in Scotland, 1780.

The Royal College of Physicians, founded in 1523, has a president, 96 fellows, about 18 candidates, and about 320 licentiates. The Royal College, at Dublin, 33 fellows, and 60 licentiates. That of Edinburgh (1681), about 100 fellows, of whom a third are resident.

The College of Surgeons is governed by a president, 20 vice-presidents, 7 curators, and 4 professors, with officers.

The British Museum is governed by 23 official trustees, 9 of the families of donors, and 14 elected. There is a principal librarian, and 14 keepers and assistants. The number of visiters per annum is about 50,000.

The Literary Fund was established in 1790, for the eleemosynary relief of destitute authors.

The Asiatick Royal Society was incorporated in 1824, for literary and scientifick purposes.

The Institution for Improving and Exploring Africa was formed in 1807; and there is also an African and Asiatick Society, with religious objects.

There is an Anti-Slavery Society, of which the Duke of Gloucester is Patron.

The Horticultural Society of London was founded in 1808, and has been eminently useful in naturalizing foreign plants and improving gardening. There is another at Edinburgh, and others in nearly every county.

The total number of visiters to the Horticultural Gardens, in 1830, was 224,745. But this is exceeded by the visiters to the Zoological Gardens, in the Regent's-park, often 1500 per day.

The Garden of Fromont, six leagues from Paris, contains 130 acres, and more than 6000 species and varieties of vegetables, many of them still new in France. Some of the green-houses are 2,000 feet in length, with glazed roofs, possessing all varieties of exposure.

The Athenæum, in Waterloo-place, is a club of distinguished amateurs of literature.

The term *Blue Stocking*, applied to literary ladies, was conferred on a society which was called the Blue Stocking Club, in which females were admitted; and so called owing to a Mr. Benjamin Stillingfleet, one of its acting members, always wearing blue stockings.

In general, literary and philosophical societies are close corporations, very unfavourable to originality and the advance of knowledge beyond a prescribed beaten track. They are usually governed by ancient authorities, and by the prejudices of the education of the senior or leading members; and, hence, having a certain weight with the vulgar, they impede the march of discovery. They help to spread what was known when they were founded; but they look with stern jealousy on all innovations, and guard, with vigilance.

the orthodox faith recognised, continued, and cherished by their society. Thus they give countenance to errour, and serve as engines to keep knowledge within the limits prescribed by civil and ecclesiastical power.

Incomes of several Religious Societies of England:—

British and Foreign Bible Society,	84,982*l.*
Christian Knowledge Society,	65,929
Gospel Propagation Society,	34,693
Church Missionary Society,	47,328
London Missionary Society,	48,226
Wesleyan Missionary Society,	46,302
Baptist Missionary Society,	17,185
London Jews' Conversion Society,	12,145
Hibernian (London) Society,	9,228
National School Society,	2,183
Religious Tract Society,	24,973
Slave Conversion Society,	4,375
Naval and Military Bible Society,	3,396
	400,950*l.*

There are three methods of acquiring knowledge—first, by committing to memory in the manner of tasks, which usually are forgotten as soon as said by rote; second, reading books, which makes but a fleeting impression, and leaves only general ideas; and, third, answering, by original exercise, questions upon books, and on the facts and principles contained in them, by which the student is compelled to think for himself, and to evince his acquaintance with the subject. This is called the Interrogative system, and it has been applied to every subject of study with unequivocal success. The interrogative system, by questions, *without* answers, is however to be carefully distinguished from the vulgar method of writing books in questions *with* answers, by which no advantage is gained.

The system of infant schools embraces children just emerged from the nursery, and instruction is effected by toys and sensible objects, and by the patience and address of the tutoress.

The system of Pestalozzi consists of oral questions, proceeding synthetically from simple to complicated objects, and the answers are given orally. It is similar to the interrogative system, but does not possess the practical convenience and intellectual advantages which attend the writing of the answers, which act is a simultaneous exercise in spelling, grammar, and composition.

The Hamiltonian system, for teaching language, is similar to that developed in the little books bearing the name of the Abbé Bossut; both consider the words of a language as the primary objects to be learnt, and then the phrases or idiomatick construction.

The system of Bell and Lancaster is an appeal to the eye and memory, in small classes directed by monitors, who are the more forward children, and who perfect themselves while teaching the others, so that one master may thus superintend the economy and exercises of several hundred pupils; and it is therefore a cheap method of teaching the mass of the juvenile population the first elements of knowledge.

The interrogative system of instruction, invented and introduced by the editor of this work between 1798 and 1827, consists of text-books and questions on the text-books, *without answers*, which are to be furnished in writing by the pupils; and keys are printed to the questions for the ease of tutors.

The system of teaching languages by words, phrases, and grammar in consecutive succession, as in the nursery, was first published, in 1803, in elementary works, under the assumed name of the Abbé Bossut. In 1815, it was announced as a discovery by Hamilton.

The University of Oxford is governed by a chancellor, high-steward, vice-chancellor, and 4 pro-vice-chancellors. There are 19 colleges and 5 halls, the oldest University having been founded in 1172; and, the last, Worcester, in 1714. The professors are 27; of whom there are 2 in divinity, 2 in Arabick, and 1 in the equivocal science of political economy.

Cambridge University consists of a chancellor, high-steward, and deputy vice-chancellor, a commissary, public orator, librarian, 3 esquire bedels 24 professors 3 preachers and cura

tors of the Botanick Garden and Fitzwilliam Museum. It consists of 13 colleges and 4 halls. Peter-house was formed in 1257; and Downing in 1800.

Though St. Peter's, the oldest college at Cambridge, was founded in 1280, this was a place of education as early as the Romans, but revived in the reign of Henry I. The system of education still pursued, too much resembles that of the Popish and dark ages, and changes of system do not keep pace with improvements; so that in all such establishments students do not acquire the knowledge of their own age, but only that of a previous age, or of the tutors' tutors.

There were, in 1828-9, on the books, at Oxford, 5163 members, of whom 2717 were students; and, at Cambridge, 5145, and 3088 students.

The Members of Convocation of Oxford, in Jan. 1831, were 2529; and the whole on the books, 5258; Christchurch, 951.

The Temple, London, was founded in 1185; Lincoln's-inn, in 1310; and Gray's-inn, in 1357.

There are four Universities in Scotland; St. Andrew's, of two colleges; Aberdeen, of two colleges; Glasgow and Edinburgh of one.

St. Andrew's University, founded in 1410, has two colleges, St. Salvator's and St. Mary's, for divinity only. Its students are 150.

Nearly 3000 students per annum attend the University of Edinburgh, where education and knowledge are acquired in the highest degree of perfection.

The University of Dublin, or Trinity College, has produced some learned men. It consists of a provost, 7 senior, and 18 junior fellows, and 70 foundation scholars. It has usually about 2500 students, and possesses a library 270 feet long, containing nearly 80,000 books.

The Royal College of Maynooth has 9 professors; 1 of dogmatick theology, 1 of moral theology, 1 of sacred scripture, and 1 of Irish.

Gresham College, sadly deteriorated, has 7 professors of branches of ancient learning, who lecture in term-time. It is under the direction of 12 of the corporation of London.

There are endowed Colleges at Dulwich, Eton, St. Bee's, St. David's, and Winchester; besides the Military, Naval, East India, and Sion; and Elizabeth, in Guernsey.

Two new colleges, on the plan suggested by Defoe, have recently been established in London, one called the London University, near Tottenham Court; and the other, King's College, in one wing of Somerset-house. The first is more particularly supported by the Dissenters, and the second by the High Church; but they are experiments on the population of a metropolis, and are not yet fully matured.

Universities, like societies, are favourable only to the propagation of the knowledge of the previous age, or ages, and to the perpetuity of established opinions. In general, too, as the dead languages were the language of literature when the first universities were founded in the 13th century, so, by precedent and usage, they continue their studies in those languages at a time when all knowledge out of their walls is in living languages. They preserve, too, the studies and cast of opinions which they enacted at the era of their foundation, and usually proscribe all improvements and discoveries as dangerous innovations.

The number of children receiving elementary education in England, in 1818, was near 1,100,000; and the returns, in 1828, make it about 2,000,000—1,500,000 between 5 and 12. The other 500,000 are presumed to receive education at about 10,000 independent schools, at 50 to each. But for education, the distressed circumstances of the country, since 1825, would have increased crime tenfold.

The first Infant School was opened by Mr. R. Owen, at New Lanark, in 1816, as an experiment, to teach children morals and facts without theology.

Besides parish and district schools, there are, in London, numerous large schools for popular and useful education.

During 1830, 328 English National Schools had been received into union

with the National Society, making a total of 2,937 schools: and 6,643*l.* had been voted in aid of building school-rooms in 104 places. There cannot be less, in England and Wales, than 710,000 children receiving instruction under the care of the clergy.

Christ's Hospital, London, boards, clothes, and educates 1200 children.

The Foundation Schools of Harrow, Westminster, Merchant-Tailors, St. Paul's, the Charter-house, Rugby, and some others have, deservedly, great celebrity; but the systems of education are those of the age of Elizabeth.

The Number of Children educated at the great Publick Schools is as under:—

Christ's Hospital . . .	1200
Eton	500
Charter-house . . .	400
Winchester	250
Westminster	250
Harrow	200

The National Schools, in the spring of 1830, educated 275,000 children; the Lancastrian, 53,000; and there were 5000 Sunday Schools, for 700,000 children.

In 1828, the University of Berlin had 1706 students.

There are 400 students at the University of Kiel.

In the Russian Universities there are students:—Moscow, 891; Dorpat, 612; Helsingfoers (late Abo), 471; Charkoff, 318; Wilna, 303; St. Petersburgh, 311; and Kasan, 81. The ecclesiastical high schools attached to the Greek church, are those of Kieff, Moscow, and St. Petersburgh, of which the first possesses 1500, the second 630, and the last 830 scholars. The whole of the students throughout the Russian empire are therefore 5957 in number.

The following is the number of degrees granted by the Scottish Universities in the last 31 years:—

	D.D.	LL.D.	A.M.	M.D.
Edinburgh	46	27	199	2,524
Glasgow	87	72	760	654
St. Andrews	69	6	59	649
Aberdeen	26	59	740	296
Marischal	31	50	881	282

PHILOSOPHY.

Philosophy has undergone four great changes:—1. A total subserviency to priestcraft and superstition, by the Chaldeans and Egyptians. 2. A commixture of reason and poetry, by the Greeks. 3. A mechanical system, introduced by Copernicus and Galileo; and, 4, a system of poetical, verbal, and imaginary causation, taught by Newton, Lavoisier, &c. The world, at present, are divided between the two last; but reason demands the entire ascendency of the third.

The religion and philosophy of the Hindoos are contained in a Book called *Anbertkend;* or, the Cistern of the Waters of Life; but they have nine schools of philosophy, ancient and modern.

The first observers and recorders of nature were the Hindoos; the second, the Chinese; and the third, the Arabians and Chaldeans. But all reasoning was so mingled with priestcraft, that nature never was approached by common sense. Such has been the fate of philosophy always, even to our own times. It must not differ from theology, and therefore it makes no publick advances. The schools, of our days, are more ignorant of proximate causation, than able Greeks in the remote days of Thales.

Pythagoras, says Mr. T. Taylor, taught that all things result from matter and form, in harmony and symmetry, strictly geometrical and arithmetical. He taught that the elements of fire, air, earth, and water, were made up of atomick plane figures, indefinitely thick, of triangular forms, since, from an equilateral triangle, and its division in the middle, he could form, by their combination, all the regular figures, and then these produced different effects, as the pyramid fire and the cube earth. Every reader will see in this the germs of the modern theory of Hauy, an approach to the definite proportions of modern chymistry, and the last theory of Wollaston; while the microscopick observations of Link and Daniel tend to support the outline of the theory

The Pythagorians said, that num

bers, from 1 to 10, govern all things, as—1. bound, or the infinite; 2. the odd and even; 3. one or many; 4. right or left; 5. male or female; 6. rest or motion; 7. straight or curved; 8. light and darkness; 9. good or evil; 10. square or oblong;—called the 10 co-ordinations.

Pythagoras taught the solar system, such as was revived by Copernicus.

Xenophanes asserted a first principle, finite and spherical.

Thales and Hippon called the first principle water, for the hot lives by the moist, and dry things perish; while seeds are moist, and aliment juicy. Thales left no writings but his Nautical Astrology; but he collected and edited the works of Homer.

Hippasus and Heraclitus taught that there was one moveable and finite principle, but that it is to fire which all things owe their rarity and density; and Heraclitus taught necessity

Anaximander, the disciple of Thales, alleged that the infinite was the principle and element of beings, distinct from the elements and matter; and he taught that generation was the separation of contraries, through an eternal motion.

Anaximenes, that the infinite is air, which, divided, is fire; and, condensed, wind; then a cloud; then water, earth, and minerals, from which other things are produced.

Aristotle, the most elaborate of the Grecian philosophers, was a pupil of Plato. He was, by Philip, appointed tutor of Alexander the Great; and, after his pupil went on the Persian wars, Aristotle taught philosophy, in the Lyceum of Athens, with great renown, for 13 years. But, on the death of Alexander, the priesthood—the gods of whose interest he did not teach, but only the existence of one God,—raised charges against him, and fearing the fate of Socrates, he withdrew from Athens; and, in 315 B. C. he died in his 63d year. He was the author of 400 treatises, which he left to Theophrastus, his successor, with an injunction not to publish them At his death, they became the property of his heir; and afterwards fell into illiterate hands, at Smyrna, where they were put in a cellar, and remained 150 years, till they nearly perished. They were then removed to Athens, and, in 86, sent by Sylla to Rome.

Diogenes Apoloniates ascribes all things to air, and he adopted an element between fire and air, apparently the gas or ether of the moderns.

Parmenides adopted two principles, fire and earth, or God and matter; the one active, the other passive, a near approach to the doctrines of the moderns. He used to say, that, although the priests and the people had so many names for God, and assigned so many properties, nature and philosophy knew but one: hence his line.

The one immoveable has every name.

Since, therefore, it was not generated, it is, and always was, and will be; and it is infinite, for it has neither beginning nor end.

A being unproduced, without decay, unshaken, single, whole without an-end; nor once it was, nor will hereafter be, since it now is one simultaneous all.

Thales and Anaximander directed, says Simplicius, their attention to the prolifick vital nature of water: Heraclitus, to fire; Anaximenes, to air; and Anaximander to motion: owing to their different views as intelligible, sensible, or proximate, asserting different things in words, but not such as are contrary, to those who are competent to judge. Aristotle observes, that some assume prior, others posterior principles; and one appeals to reason and another to sense, with little general difference.

Plato and Aristotle were rather commentators than inventors of new opinions, though they conferred greater perfection; and Plato defined the intellectual God; while Aristotle states, that every thing which moves must have an immoveable mover, the first principle of motion, subsisting as a properly producing principle, and as eternally motive.

Empedocles admitted four elements, the principle of whose action was friendship and strife, or the

attraction and repulsion of the moderns.

By friendship's aid, we sometimes with one
All things collect; and some times strife detains
All things apart, discordant horse along.

And these he makes co-ordinate with the four elements. Again, we have further confirmation in these lines—

And each with equal power is found endued,
When strife pernicious is from each apart,
And friendship equal tied in length and breadth.

Plato taught three principles, the cause or mover, matter and form; or two, the cause and matter. He was, in other respects, of the school of Pythagoras and Parmenides.

Anaxagoras made corporeal principles to be infinite; and those of water, fire, gold, &c. were unbegotten and incorruptible, and parts of their own eternal kinds, governed by one cause of motion and generation—intellect.

Archilaus and Socrates made principles infinite, and ascribed generation and corruption to mixture and separation.

Leucippus asserted that atoms, the elements of all things, were infinite, and always moved; and that they were of various forms, thereby generating and characterizing different bodies in figure, order, and position.

Democritus and Metrodorus followed Leucippus; and added, that the full and the void are the first causes of things.

Zeno, Leucippus, Democritus, Protagoras, and Epicurus, were the inventors of the Atomick System, in which they ascribed the composition of all bodies to smaller, and smaller parts, in various forms, called Atoms, at present the principle of chymistry.

Anaximander, a Greek philosopher, who flourished in the sixth century B. C., taught that infinity of matter is the original cause of all phenomena, and that all things return into it. He made the first globe, and invented the sun-dial. He observed the obliquity of the ecliptick, and taught that the sun was 28 times larger than the earth. He thought stars animated by the divinity.

Anaximenes, another Greek philosopher, who flourished in the sixth century B. C., taught the infinity of air, or ether; that its activity was the cause of all things; and that it was in reality God. From it proceed fire, water, and earth, by rarefaction and condensation.

Anaxagoras, an Athenian, who flourished in the fifth century before Christ, taught that wind was owing to rarefaction; that the rainbow was owing to reflection; that the moon is enlightened by the sun; that comets are wandering stars; that the fixed stars were beyond the sun, &c.; many of them regarded as modern discoveries. He was persecuted and banished by the priesthood.

Aristotle taught the principle of virtual velocities; and, also, that time, space, and a vacuum were essential to motion, with the laws and varieties of which he was familiar. The energy of nature to fill up vacuities, he figuratively described as an abhorrence, but did not assert that there are no vacuities.

The Academical Philosophy is so called from Plato's place of teaching, a grove of one Hecademus bequeathed for gymnastick exercises.

Most of these opinions of the Greeks prevailed in the earliest books and schools of the Hindoos.

Edrissi, an Arabian geographer, in the 12th century, describes the earth as round, and gives its size as 11,000 leagues, or about 27,000 miles; and states, that Hermes had made it 36,000, which proves that the ancient Egyptians were familiar with the shape, and approximated the size. He imagined, that south of the equator was a region of fire; and beyond the 64th degree of north latitude, was a region of ice and darkness; the Atlantick he calls the sea of darkness; and the Northern Ocean, the sea of pitchy darkness. He describes England as a country of perpetual winter, and Scotland as an island.

Copernicus, in 1543, laid the foundations of modern science, by applying geometry to illustrate astronomy and cosmography. Galileo extended his method in explaining the acceleration of falling bodies, and the motions of a pendulum. Kepler, the pupil of Tycho Brahe, sug

gested some new laws. Fermat, Gassendi, and Huygens, perfected and extended the views of their predecessors. Descartes suggested causes, and Hooke invented the theory of universal gravitation. Newton gave geometrical forms to the ideas of Kepler and Hooke, but adduced, as a proof, that the moon falls 16 feet per minute in her orbit, whereas she falls nearly 130,000; and he applied the law of superficial radiation to the celestial forces. Euler, Bernouilli, and Clairaut, illustrated the theory of comets; Lagrange and Lalande other curious points; and La Place systematized the whole by refined mathematicks, in his *Mechanique Celeste.*

The follies of philosophy have been the squaring the circle, the perpetual motion, the inextinguishable lamp, attraction and repulsion, the philosopher's stone, the universal solvent, the elixir of life, the influence of the stars, and the raising of spirits. These several subjects have, in the last 50 generations, absorbed the lives of at least 10,000 men in each, amid the veneration or fear of the vulgar of all ranks.

Galileo, the father of modern philosophy, in alluding to the general doctrine, in 1610, that the tides are occasioned by the *attraction* of the moon, says, "the tides are local and sensible, and cannot be brought to obey occult qualities, and such like vain fancies; all which are so far from being the cause of the tide, that, on the contrary, it is the cause of them, inasmuch as it creates the idea of attraction in brains more apt for loquacity and ostentation than for inquiry into the secrets of nature; and, who, rather than be driven to pronounce the wise, ingenuous, and modest words, '*I dont know,*' blurt from their tongues all sorts of extravagances." He referred the tides to the annual and diurnal motions; and, if he had superadded the moon on the same principle, his theory would have been complete.

Lord Bacon, who was one of the logical subdividers and generalizers of his age, ascribes the prevalence of errour to four causes, which he calls idols. His first idol was that of the *tribe*, by which he meant the popular errours of the human race; the next were those of the *den*, which were those of self-love and vanity; the third were idols of the *forum*, that class of errours which arise from the use of words, which, when analyzed, have not the sense imputed to them. His last class were idols of the *theatre*, by which he impugned the systems, forced on the world by schools and universities, whose publick parade tends to mislead the judgement. He also recommended, that experiment and fact should precede general inductions, a principle so obvious that it must have been recognised in every age. His own errours were however numerous; he attacked the system of Copernicus; he believed in witchcraft and astrology; he was supposed to be the editor of King James's Book against witches; and he decried the researches of Gilbert, the only experimentalist in his age.

The *instantiæ crusis* of Lord Bacon is, when a particular fact agrees with only one of two or more hypotheses. The *experimentum crucis* is, when a fact proves a particular hypothesis, and accords with no other.

The idea of a principle of general gravitation commenced with the ancients. Pythagoras stated, that the gravity of a planet is four times that of another which is twice the distance. Anaxagoras and Plutarch ascribed the circumstance of celestial bodies not falling together, to the rapidity of their motions; and Lucretius ascribed it to the infinite size of the universe. Copernicus ascribed gravity to the providence of the Supreme Being; and Galileo considered each planet as governing its own laws of gravity. Kepler says, that, if the moon and earth were not retained by some equivalent force, the earth would ascend a 54th part towards the moon, while the moon would move over the remaining 53 parts if they both have the same density. These are the fundamental principles of the modern doctrine of gravitation. But Dr. Hooke, in 1674, states distinctly that the heavenly bodies have an attraction or gravitation towards their own centres, which extends to other bodies, within the sphere of their activity; and that all bodies would

move in straight lines if some force like this did not continually act on Newton's Principia, which appeared in 1687, was palpably a commentary on these opinions.

The chief part of the Newtonian Philosophy, as delivered by the author, except his optical discoveries, &c., is contained in his Principia, or Mathematical Principles of Natural Philosophy.

1st law. Every body perseveres in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed upon it.

2d law. The alteration of motion is always proportional to the motive force impressed, and is made in the direction of the right line in which that force is impressed.

3d law. To every action there is always opposed an equal re-action; or the mutual actions of two bodies upon each other, are always equal, and directed to contrary parts. Thus, whatever draws or presses another, is as much drawn or pressed by that other, &c.

From this axiom, or law, Newton deduces the following corollaries:—

1. A body impelled by two forces conjoined will describe the diagonal of a parallelogram, in the same time that it would describe the sides by those forces apart.

2. Hence is explained the composition of any one direct force out of any two oblique ones, viz. by making the two oblique forces the sides of a parallelogram, and the diagonal the direct one.

3. The quantity of motion, which is collected by taking the sum of the motions directed towards the same parts, and the difference of those that are directed to contrary parts, suffers no change from the action of bodies among themselves, because the motion which one body loses is communicated to another.

4. The common centre of gravity of two or more bodies does not alter its state of motion or rest by the actions of the bodies among themselves, and therefore the common centre of gravity of all bodies acting upon each other, (excluding external actions and impediments) is either at rest, or moves uniformly in a right line.

5. The motions of bodies included in a given space are the same among themselves, whether that space is at rest, or moves uniformly forward in a right line, without any circular motion. The truth of this is evident from the experiment of a ship, where all motions are just the same, whether the ship is at rest, or proceeds uniformly forward in a straight line.

6. If bodies, any how moved among themselves, are urged in the direction of parallel lines, by equal accelerative forces, they will all continue to move among themselves, after the same manner as if they had not been urged by such forces.

The mathematical part of the Newtonian philosophy depends chiefly on the following lemmas, especially the first, containing the doctrine of prime and ultimate ratios.

Lemma 1. Quantities, and the ratios of quantities, which, in any finite term, converge continually to equality, and before the end of that time approach nearer the one to the other than by any given difference, become ultimately equal.

Lemma 2. Shows, that, in a space bounded by two right lines and a curve, if an infinite number of parallelograms are inscribed, all of equal breadth, then the ultimate ratio of the curve space, and the sum of the parallelograms, will be a ratio of equality.

Lemma 3. Shows that the same thing is true when the breadths of the parallelograms are unequal.

In the succeeding lemmas it is shown, in like manner, that the ultimate ratios of the sine, chord, and tangent, of arcs infinitely diminished, are ratios of equality; and therefore that in all our reasonings about these, we may safely use the one for the other; that the ultimate form of evanescent triangles, made by the arc, chord, or tangent, is that of similitude, and their ultimate ratio is that of equality; and hence, in reasonings about ultimate ratios, these triangles may safely be used one for another, whether they are made with the sine, the arc, or the tangent. He then demonstrates some properties of the ordinates of curvilinear figures, and shows that the spaces which a body

describes by any finite force urging it, whether that force is determinate and immutable, or continually varied, are, to each other, in the very beginning of the motion, in the duplicate ratio of the forces; and, lastly, having added some demonstrations concerning the evanescence of angles of contact, he proceeds to lay down the mathematical part of his system, which depends on the following theorems:—

Theorem 1.—The areas which revolving bodies describe by radii drawn to an immoveable centre of force, lie in the same immoveable planes, and are proportional to the times in which they are described.

Theorem 2.—Every body that moves in any curve line, described in a plane, and by a radius drawn to a point either immoveable or moving forward with a uniform rectilinear motion, describes about that point areas proportional to the times, and is urged by a centripetal force directed to that point.

Theorem 3.—Every body that, by a radius drawn to the centre of another body, any how moved, describes areas about that centre proportional to the times, is urged by a force compounded of the centripetal forces tending to that other body, and of the whole accelerative force by which that other body is impelled.

Theorem 4.—The centripetal forces of bodies which by equal motions describe different circles, tend to the centres of the same circles; and are one to the other as the squares of the arcs described in equal times, applied to the radii of the circles.

On these and such like principles depends the Newtonian mathematical philosophy. The author further shows how to find the centre to which the forces impelling any body are directed, having the velocity of the body given; and finds that the centrifugal force is always as the versed sine of the nascent arc directly, and as the square of the time inversely, or directly as the square of the velocity, and inversely as the chord of the nascent arc. From these premises he deduces the method of finding the centripetal force directed to any given point when the body revolves in a circle; and this, whether the central point is near at hand, or at immense distance; so that all the lines drawn from it may be taken for parallels. And he shows the same thing with regard to bodies revolving in spirals, ellipses, hyperbolas, or parabolas. He shows, also, having the figures of the orbits given, how to find the velocities and moving powers; and indeed resolves the most difficult problems relating to the celestial bodies.

In the second book, Newton treats of the properties and motion of fluids, and their powers of resistance, with the motion of bodies through such resisting mediums, those resistances being in the ratio of any powers of the velocities; and the motions being either made in right lines or curves, or vibrating like pendulums.

In the third book he demonstrates the frame of the system of the world.

The phenomena first considered are, 1. That the satellites of Jupiter, by radii drawn to his centre, describe areas proportional to the times of description; and that their periodick times, the fixed stars being at rest, are in the sesquiplicate ratio of their distances from that centre. 2. The same thing is likewise observed of the phenomena of Saturn. 3. The five primary planets, Mercury, Venus, Mars, Jupiter, Saturn, with their several orbits, encompass the sun. 4. The fixed stars being supposed at rest, the periodick times of the said five primary planets, and of the earth about the sun, are in the sesquiplicate proportion of their mean distances from the sun. 5. The primary planets, by radii drawn to the earth, describe areas no ways proportionable to the times; but the areas which they describe by radii drawn to the sun, are proportional to the times of description. 6. The moon, by a radius drawn to the centre of the earth, describes an area proportional to the time of description. All which phenomena are clearly evinced by astronomical observations.

The mathematical demonstrations are next applied by Newton, in the following propositions:—

Proposition 1.—The forces by which the satellites of Jupiter are continually drawn off from rectilinear motions and retained in their

proper orbits, tend to the centre of that planet, and are reciprocally as the squares of the distances of those satellites from that centre.

Proposition 2.—The same thing is true of the primary planets, with respect to the sun's centre.

Proposition 3.—The same thing is also true of the moon, in respect of the earth's centre.

Proposition 4.—The moon gravitates towards the earth; and by the force of gravity is continually drawn off from a rectilinear motion, and retained in her orbit.

Proposition 5.—The same thing is true of all the other planets, both primary and secondary, each with respect to the centre of its motion.

Proposition 6.—All bodies gravitate towards every planet; and the weights of bodies towards any one and the same planet, at equal distances from its centre, are proportional to the quantities of matter they contain.

Proposition 7.—There is a power of gravity tending to all bodies, proportional to the several quantities of matter which they contain.

Proposition 8.—That planets perform their orbits between the said force of gravity and a centrifugal or projectile force originally implanted in them, and continue uniform owing to the motions being performed in spaces, so devoid of matter as not to oppose any sensible resistance; which projectile force was originally a rectilinear motion, from which they have been deflected into orbits by the attraction of universal gravity.

Proposition 9.—That as no mechanical cause can be assigned for the projectile force, none for the gravitating force, and none for the rotation of planets on their axes, so all those phenomena must be referred to the immediate agency of the Supreme Being.

These, and many other propositions and corollaries, are proved or illustrated by a great variety of experiments, in all the great points of physical astronomy.

The preceding system of Sir Isaac Newton being founded on the supposed attractions and repulsions of matter which are mechanically impossible; on a principle of universal attraction of gravitation, assumed on the alleged fall of the moon 16 feet in a minute, whereas it is 128814 feet; and on a miraculous projectile force acting in a vacuum, Sir Richard Phillips has, in contrast, promulgated a strictly mechanical system, in which the simple motions and momenta of bodies among one another, are proved to be the proximate causes of all material phenomena.

Postulata 1. A body remains at rest unless impressed by another body in motion. 2. A body, impressed by a moving body, acquires motion. 3. The motion acquired is in the direction of the mover. 4. The force is exerted on the side opposite to the parts to which the body subsequently moves. 5. A body is in force, or has the power of moving another body only in the direction in which it moves. 6. Momentum, or force, is the quantity multiplied by the velocity. 7. After a body in motion has impelled a body at rest, the momentum of the mover is divided between the two. 8. After a body in motion has impelled a body at rest, the quantity moved is increased, but the velocity diminished. 9. Momentum being always divided, none is ever lost. 10. The display of any force or power is always evidence that some matter or body is in motion. 11. A body cannot act where it is not present. 12. A body cannot move another body towards itself, by impressing the opposite side where it is not present, *i. e.* there is no attraction. 13. A body cannot be moving one way, and be the cause of another body moving in the opposite direction, *i. e.* there is no repulsion. 14. Bodies may be in force from motion, though relatively at rest, when parts of a moving system, as in the cabin of a ship. 15. The force of weight is either the motion or propulsion of a body towards the centre of the earth. 16. Bodies in motion, in one direction, require greater force to turn them into a new direction, *i. e.* there is no vis inertia. 17. The power of bodies in motion, called action, being divided with bodies moved, called reaction, the quantity parted with is equal to that received, *i. e.* action and re-action are equal. 18. That the force of a body moving in gas is

transmitted through gas, by the motion acquired by the intervening atoms of the gas.

His fundamental principles are—1. That a great progressive motion of a mass, combined simultaneously with a less motion of rotation, produces a resulting aggregation of the parts, and a centripetal force in all the parts, which is directly as the absolute progressive velocity, and inversely as the relative deflecting rotative velocity.

2. That a progressive motion of any system of bodies immersed in a gaseous medium, which medium transmits the circular motions of a larger body to any less one, occasions the progressive motion to be a collapsing force towards the central body, and the circular motion to be a tangent force on the less bodies.

3. That motions, or forces propagated through gas, are, at different distances, inversely as the cube of the distance, and directly as the quantities of matter in the bodies and their velocity of motion. Because the intervening atoms receiving the motions, are as the spaces, and these are as the cubes of the distance; and the primary force is as the momentum, that is, as the quantity multiplied by the velocity.

4. That, in a progressing and rotating system, either the progressing mass of a revolving planet, or progressing planet and revolving satellite, or progressing sun and revolving planets, the centre alone of the planet, or major body, moves with uniform velocity; and all the rotations or revolutions are deflections, or added motions of the parts, produced by abstractions from the force of the centre, and, therefore, retard the motion of progression of the mass. Thus, the earth would move faster in its orbit if it did not turn round; and it would move faster if it did not impart the force which moves the moon; so with other planets and so with the sun.

5. That progressive absolute motion of a system of bodies, as the progression of a ship, vehicle, or planet, to which motion all its parts are alike subject, produces among the parts a force towards the line of motion, or line described by the centre of the mass; but other phenomena arise among the parts whenever any relative motion affects some of them more than others, as when the system so progressing is made to turn round its centre with velocities of the parts according to the distance from the axis of rotation; they will then exhibit peculiar mutual results, or actions and reactions towards the centre, determined by the ratio of their several relative and deflective motions, to their common progressive velocity.

Corollary 1. If the centre does not progress, but the force of rotation is derived externally, as from the hand, or a winch, then this force will be displayed in the flying off of the parts in tangents.

2. If there is only a progressive motion and no rotatory, then the parts will form a train, and seek with force the common line of motion.

3. Progression and rotation, simultaneously, correct both causes of dispersion; for progression collapses the divergent action of rotation, and rotation checks the tendency of progression to form a train.

4. If, as in a planet whose rotation is derived from its progression in a curved orbit, the velocity of rotation could be made equal to that of progression, the planet would become stationary; and, if the rotation were greater, the parts would fly off in tangents; but, while the progression is greater, the parts between both tendencies necessarily fall to the centre.

5. The force of rotation being derived from the force of progression, is, of course, always less, and therefore the parts of all planets fall towards the centre; or, if not falling, have the force called weight or gravis; and hence also satellites respect the centre of primaries, and planets the centre of the sun.

6. In such a system it makes no difference whether any part or side is moving before or after the centre, or direct, or contrary, or oblique, because no part or side moves by itself, but is in mechanical connexion with *opposed* sides, one being in direction *plus*, and the other in direction *minus*; so that the average or mean result of the two sides governs the whole in necessary equilibrium

around a common centre determined by both motions, which centre is not deflected like the other parts, but is always moving with the uniform progressive velocity.

APPLICATION TO FACTS.

I. The earth moves in its orbit about 98170 feet per second, which, in a ratio with the diurnal rotation, may be taken as a straight line, then this rotation derived from the other is 1525.4 feet. Then taking O as orbit, R as rotation, and F as fall, we have $\frac{O}{R}=F=64.3488$, for the centripetal force of a body at the equator, taken as a line only.

II. But the rotation of a line or hoop being simply as the radius only, that of the equatorial plane is as the square, or area, of the diameter of the equatorial plane, and that of the whole revolving sphere is four times this area; consequently $\frac{O}{4\,R}=F$, or 16.0872, which is known, by experiment, to be the mean fall all over the earth per second.

Corollary 1. For other times, the continuous force produces acceleration by Galileo's law, as the square of the number of seconds.

2. As the acceleration is caused by two motions, so the fall would become equable in 189 seconds, when the velocity becomes equal per second to the rotative force of the sphere.

3. That the equation $\frac{O}{4\,R}=F$ applies to all planets, and is local and special in each, and F has therefore no connexion with any property of matter, called the attraction of universal gravitation.

4. That $\frac{O}{4\,R}=F$ is $O=4\,R\times F$, hence, the two last being known, we have the size of the orbit and distance of the sun.

5. A second is recognised as a standard time, because it is the first and last mean, the fall in half a second being four feet, and that in a second and a half 36 feet, 32 feet being the fall in this first second, of which a second is the mean, or 16 feet.

III. The centripetal effect is the same in the parallels as at the equator, because the force is as the square of the radius, and this is equal to the square of the sine and cosine every where; while their diagonals are the common radii. At the poles, the sine becomes the radius; and, at the equator, the cosine. The equation for different latitudes is $V\times\frac{R}{\text{cos. lat.}}\times 4$.

Corollary. All the parts of the *same* sphere must be equally affected, and all the actions and reactions directed to and from the common centre.

IV. $F\times R$ (4 R) being $=O$, so F and R are the sides of a rectangle equal to O; and as $F:\sqrt{O}::\sqrt{O}:R$, *i. e.* 16.08728 : 313.27 :: 313.27 : 6101.6. The first term being the known fall of a body; the second and third the square root of 98170, the mean orbit motion per second; and, the fourth, the rotative force of the whole surface.

V. As it is for bodies at the earth, so it is, by exact analogy, for the moon. The earth's momentum is the rectangle of its relative bulk to the moon 46.95, by its own velocity 98170 feet per second $=4609000$; and this rectangle is exactly equal to the square of the two equal forces, which produce the moon's true mean orbit motion of 3371.35 per second, found, by dividing 7958 millions of feet in orbit, by 2360591 seconds. For $\sqrt{46.95\times 98170}=2146.9=$ the sides of the said square, and $=$ the equal tangent and central force at right angles. Then 2146.9×1.5708 for the subtended equivalent arc, gives 3371.35 feet exactly. The distance is taken at 240,000 miles, but whether more or less all the results would equally accord.

Corollary 1. How gross the imposture then of founding a system on a fictitious fall of 16 feet per minute, the real fall being, exactly, 128814 feet per minute, while the equal division of the radius of the orbit gives 139,000 feet! How juggling, too, to compare a paper fall at the moon with a real fall at the earth; and how delusive, even under that juggle, to take a minute, when even the juggle itself would hold for no other time! How strange, too, to assign a fall of only 16 feet during a motion, ra

pidly curved, of 202281 feet! But the wonder, after all, is far less, that a system-maker should be seduced to make the assertion, than that mathematicians, and men of moral worth, should, from 1687 to 1831, have been mistaken enough to believe, and teach such nonsense with solemn emphasis.

2. The satellite systems of Jupiter, Saturn, and Herschel would be governed by the bulks and orbit velocity, like the above; but the rectangle would be equal to the squares of the forces of all the moons, and, in investigating them, it is convenient to consider them as a mean moon at a mean distance.

VI. As it is with the earth and moon, or planets and moons, so it is with a sun and planets. A moving system demands a moving centre; and, as aggregation and centripetation exist in the sun, though it palpably rotates, so it must progress through space, attended by its system, just as his miniature-system progresses with Jupiter. If the fall at the sun was the same as that at the earth, its rotation of 7418 feet per second would demand 474752 feet of progressive motion. But considering the rectangle of its bulk by its velocity, as equal to the rectangles of all known planets, or to the rectangle of a mean planet 590930000 miles distant, whose two equal forces would be 23610. the sun, 557 times larger, would have to move 1000000 of feet nearly; if more planets, and twice the matter, the motion would be 730,000 feet; or, if thrice, then 435,-500 feet. Hence, the motion is about 6 or 700 thousand feet per second.

Corollary. The sun, probably, obeys some motion of the cluster of the milky way to which it appertains.

VII. The orbits of planets are generated in location where the collapsing force to the centre, and the rotation of the gas of space, have equal force in accord with the magnitude of the mass. It is there moved within certain limits, varied mechanically, and independently of the primitive forces. When a planet starts from its mean distance, the two equal forces would move it in a diagonal right line; but the gaseous tangent force carries it outwardly, and it passes diagonally between the mean tangent of an incremental arc and its chord, every succeeding chord being equal to every preceding mean tangent. Then, as the end of one mean tangent joins another at the outer corner, and each is in succession directed outwardly the distance increased till it becomes too great for both primitive forces; and, at 90°, the chord becomes equal to the mean tangent of the whole quadrant. The orbit being now too large for the first forces, the planet moves slowly, till the central or chordal force prevails, turning the direction and carrying the planet to the inner corners of the rectangles of the little arcs, till it arrives at the perihelion, where the forces so increase as to give ascendency to the tangent force, which carries it again to the outer corners, till it reaches the aphelion.

Corollary 1. The quantity which the planet is carried out by the tangent force referred to the radius, is the eccentricity; and an approximation of the series on these data, gives a sum which adds, as near as possible, ·0337 to the major axis.

2. The sun is the constant centre of every increment, and the centre of the solar system; the foci and orbits being merely pictorial.

3. This problem may also be considered in relation to the increase and decrease of the angle of 90°, which occur between the forces, as one of them decreases or increases the distance, a variation which would also account for the ellipticity.

4. The previous explication refers to mechanical causes, the variations of force; while it admits that variation of angle in the two forces, which, in Newton's explication of orbits, required only a mechanical origin to be satisfactory.

IX. The rotation of a planet is caused also by the same forces, one directed to the sun, and the other on the right-hand side, so that each affects half the planet, but both one quadrant; while its opposite quadrant is unaffected by either. The orbit, then, is in the direction from that quadrant to this other; and then if the planet moved in the

usual diagonal, the centre would describe that line; but the line of direction is 5° 32′ beside the centre, and hence the rotation. Thus, the direction from the chord to the mean tangent, at once creates the curvilinear orbit and the rotation. In a quadrant, in round numbers, it occasions the planets to move through 1.5708, at an angle of 50° 32′, instead of 1.41415 at 45°, while the gross force, in the diagonal of the chord and the mean tangent, is 1.7316, at 54° 44′. Mechanically, in the phenomena of a planet, *cæteris paribus*, the earth's orbit force is a rectangle, formed by the mean tangent of a quadrant with its chord; of which rectangle a portion is the earth's orbit motion, or the rectangle of the diagonal of the chord and mean tangent; and the remainder of the first rectangle is exactly equal to the quantity of the rotation, and the eccentricity divided by the force of the obliquity.

Corollary. That, by the general action of the centrifugal and centripetal forces, we know that the resulting mean *tangential* force is as 8, and the mean *chordal* force as 5.656856, taken for the 4 mean quadrants. Then the planet oscillates, as it were, between these lines (acting as alternate chord and tangent) in an orbit, which, as a mean circle, would be 6.28318; but, as an ellipsis is in the earth .0337 more, or 6.3033. But the mean proportional of the tangents and the chords is 6.7214, and this *less* 6.3033, leaves 0.4181, for an *excess* of force not required in the production of the actual orbit, and therefore applicable to the whole rotation. In proof that it is so, $\frac{6.7214}{0.4181}=16.08$ the known ratio of the two forces; and further, in the earth, as 6.7214 : 0.4181 :: 585112000 (the whole orbit) : 36370000=365.24 × 24896 × 4. Hence, it appears, that such is the mechanical or geometrical harmony, and such the provision for the uniform organization of matter, that fall and weight is the same in all planets; and then, knowing the distances and circumferences, we can approximate the rotative forces, and the number of rotations or days in any orbit.

VIII. The ratio of the times and distances is not that promulgated by Kepler, for the forces in space, propagated in gas, are as $\frac{1}{D^3}$, not as $\frac{1}{D^2}$; and every planet is acted upon by two forces each, as $\frac{1}{D^3}$ at right angles. Their hypotenuse is the orbit, which, in times of D, governs the times, not the original force, or one of them. Then twice the square of $\frac{1}{D^3}$ is $\frac{2}{D^6}$, the square root of which $\frac{1}{D^{\frac{3}{2}}}$ or $\frac{1}{D^{1.5}}$, as the orbit force governing the times; which, being inversely as the force, T is as $D^{1.5}$. That is $T : t :: D^{1.5}$ to $d^{1.5}$. But T and $D^{1.5}$ being known in the earth, it becomes $1.83 \times t^{\frac{2}{3}}$ universally. That is, the distance of any planet from the sun, is the cube-root of the square of its period, multiplied by 1.83.

Corollary. The law $\frac{1}{D^2}$, adopted by Newton, because it resembled light and heat on a surface, would give $\sqrt{\frac{2}{D^3}}$, and T as $D^{0.5}$ which is absurd. He took one of two forces, instead of their result in the orbit which they produced, and which orbit force governs the times.

IX. The precession of the equinoxes, or falling back of the earth's nodes, and the advance of the line of apsides, are two different displays of the very same motion as their common cause. The earth, like every other body which goes round in a circle, or orbit, turns once on its own axis, as a mere consequence of its orbit revolution; and this motion is displayed in its orbit by an advance of the orbit itself, or in the apsides of the orbit, equal to a circumference measured in the stars, *i. e.* in the relation of the equator to the ecliptick; and, by an anticipation of the nodes as a mere terrestrial phenomenon, relatively measured and determined as to the stars in the relations of the ecliptick, to the terrestrial equator. The circumference of the earth, 24896 miles, is therefore an exact mean proportional of the two in quantity; and so, also, in angular motion; and

also in periods; 24896, in the ecliptick is 27141 for the apsides per annum; and, in the equator, is 22838 miles for the precession. That is, $C^2 = A. \times P.$ The angles are 50.1″. Precession 61.98′. Apsides, and their mean proportional, is 56.277″ for the circumference. And the periods are 25868 precession, 20910 aspides, and their mean proportional 23255. The angular quantities are 22382 miles and 27692, and still exact proportionals to 24896. The angular differences over the trigonometrical, in a year, are + 551 apsides—456 precession, and in similar ratio; while their mean, 501, is exactly what the moon would add, *i. e.* a 49th or 50th to each, or to the acceleration of the earth's orbit from its rotation on its axis in connexion with its satellite.

Corollary 1. The moon's mean circumference is 6836 miles, and her nodes fall back 5166 seconds, or 6800 miles, which, as above, reduced to the ecliptick, is 6836 exactly.

2. Of course, as the angle 56.277″, the mean proportional of the known angles 50″.1 and 61″.98, is=24,896 miles, so we determine the orbit, and that the mean distance of the sun is between 92 and 93 millions of miles, without considering the effect of the moon on the angular motion.

X. That Tides arise from the sensible yielding of the mobile waters to those reactions of the moon which carry the earth round the mechanical centre of both, and they are inversely as the angle of the earth's orbit motion to the direction of the said reactions; while the opposed tides arise from the necessary equality of the two sides of the rotating earth, so that if one side is enlarged by a tide, (the earth's centre being a point determined by greater forces,) then the mobile waters on the opposite side rise mechanically by the force of the opposite side, and restore the equilibrium of bulk and momentum of both sides.

XI. That, from similar causes, the reaction of the earth to the sun, which is first displayed by the mobile waters, these are most affected in the perihelion, and least in the aphelion; and hence the perihelion demands in its line of action the centrifugal force of more water than the aphelion, by which the seas follow it from hemisphere to hemisphere, as it varies its declination. Its declination is now in 23° south, and therefore the seas preponderate in the *southern* hemisphere; but when, in less than 10,455 years, the declination becomes 23° north, the seas will then equally preponderate in the *northern* hemisphere. The difference of force is as 11 in the perihelion to 10 in the aphelion. These regular alternations of the seas are, therefore, the chief cause of the various land and marine strata, while it appears, from their succession and number, that the perihelion must many times have progressed around the ecliptick in periods of 20,910 years.

Corollary. Of course, as quantities of intervening gas are moved by the central force, and as the same force will move only the same quantity in the same times, the dimensions, or area, of the volume of moved gas, must in the same times be equal; but the proposition is only an amusing harmony, because the orbits must be as the forces, greater when nearer, and less when farther off.

XII. That as comets, however they originate, pass through the solar system generally at high angles, so their deflections are created by the sun's diffused action in his sphere of action, which is inversely as the cube of the cosine and as the sines. In like manner the perturbations of the planets are inversely as the cube of the cosine of their spheres of action, and as the sines subordinate to the solar force. On this principle all the orbits of comets may be reduced to the utmost degree of precision. So, also, with the perturbations of the planets themselves, their orbs of action interfere inversely as the cube of the cosine and as the sine of their latitudes.

Cor. The sun being the centre of the system, and all the motions in it being abstracted from the sun, whose motions are a remainder, so, the sun's motions admitting of no modification from the parts, any disturbances among them are speedily corrected by the absolute force of the centre.

XIII. Facts do not enable us to

determine the cause of the sun's progression, but that progression is the proximate cause of the orbit revolutions of the planets, while their rotations on their axes are abstractions from their own orbit velocity; and the momentum of each planetary mass is then the source of all the motions, combinations, powers, actions, re-actions, vegetable, and animal life, &c. &c. which are displayed by its parts and atoms on its surface or elsewhere. All these are so many deflections from, and excitements to, the terrestrial momentum, and they begin in it and are ultimately returned to it; while the terrestrial momentum is itself part of the momentum of the sun, which fosters, by its light and heat, (the momenta of its atoms) all those multitudinous phenomena which it generates by the momentum of its mass. Such is the scheme of nature—such the solar, and perhaps the general, system of the vast material universe.

XIV. That other pretended proofs of an absurd principle of attraction are almost beneath contempt. In an elastick atmosphere, its pressure on bodies is in right lines, and the force inversely as the cube of the lines. If the lines then, on one side, are shortened by any interception, the longer lines of force on the opposite side press the body towards the intercepting object. In this way floating corks intercept each other's pressure, and go together; so boats incline to intercepting ships, plummets to intercepting mountains, and nicely-poised lead-balls, and drops of water and mercury, yield to each other's interception. This law, and fitting forms, are the causes of all chymical attraction, and of the ascent in capillary tubes; while the attractions of electricity and its modifications in galvanism and magnetism, arise from a separation of atoms usually in fit combination; and the effort to restoration affects bodies placed in the space in which the effort exists. The whole is mechanical, and, in reasoning, we must consider in all cases the *modus operandi*; or, we only *mystify and obstruct inquiry, and have no real knowledge.*

Space, according to this system, is the extension of matter, or of matter in motion, or, in fine, the extension of *material power*; every equal space having within it equal momentum, or a tending to equality, created by more matter and less motion, or by less matter and more motion.

There is no space void of *material power*, owing to the elasticity or orbit motions of atoms of gas, which enlarge as any space presents itself, that is less filled with power than any other space, as in the pores of bodies, and spaces between the planets and stars.

Matter, under all circumstances, is in great motion. In solid forms in a planet it moves with the planet, and presses mechanically towards the centre of motion. By rotation, velocity is superadded as density lessens, or as distances from the centre. In fluids and gases, its atoms also are in great intestine regular motions; motion taken away produces fixity, or imparted confers fluidity.

Motion is transferred from body to body, because bodies in motion unite or conjoin with others, and when these are at rest the bulk is merely increased, and the velocity is continued of the whole inversely as the new bulk to the old; and when the transfer is effected by a change to intermediate atoms as in gases, and then by these to a body at rest, the transfer is as the number of atoms diffusing the motion, or inversely as the cube of the distance.

Impulse, or *impact*, moves a body at rest, because, for a moment, that body partakes of the momentum of the impeller; and the motion is continued, because, in advancing a body creates a nascent vacuum in its rear, which other matter closes with force, and the motion only abates by the transfer to the atoms encountered in front.

As every body parts with its motion only to other bodies which then display it, so *action* is transferring motion, and *re-action* is receiving what is transferred, both therefore equal. *Percussion* is one mode of parting with motion, *Friction* another, and *Resistance* another, all resolvable into mere union. *Reflections* and *Deflections* arise from

the velocity being parted with only on the striking side; and direct *rebounding* arises from the striking side parting with its motion before the rear side, which produces a continuous blow. *Inertia* is the mere consequence of all matter being in some previous motion to that in which any new force is applied, for without motion, matter has no kind of force.

Past mistakes and controversies, about Space, Time, Power, &c., have risen from inattention to *Gas*, and ignorance of its construction; about motion, from its being supposed to be lost when invisibly continued in gases, or being pretended to be renewed by such fanciful powers as attraction, repulsion, fermentation, or fire; and about Time, from no physical effects being ascribed to the motions of the earth as a planet.

Time is the sensation or perception of the earth's motions, the sensations succeeding, step by step, as the motions proceed; and Time is measured by cycles of the phenomena, as days, moons, and years. In other planets, Time is measured by their particular motions; and Time and Duration are universally measured by motions, and are merely the sensations which accompany them in succession as cause and effect.

Motions, changes, and phenomena on the earth, or any planets, are entirely caused by the motions of the earth or planets, derived from them, and returned into them. The annual and diurnal motions create, cause, include, and absorb the entire events, progress, and history of all organized beings, their motions and phenomena being mere deflections of the motions of the planet with which they are connected. And the motions of the sun create the motions of all the planets.

The personal and identical *Sensations* of animals are mechanical results of their whole healthful organization and vitality; and *reasoning by analogy* is a necessary result of individual experience and education from imbecile infancy, essential to preservation, and to the beneficial use of the limbs, &c. as proveditors for the contained polypus or *absorbing stomach*; every animal being radically a polypus, with a body of compound feelers, and a medullary system for perception and reasoning by analogy, those powers being essential to the due use of the feelers, or limbs and other adjuncts to supply the polypus, or stomach, with food, soil, excitement, or manure.

What is called intellectuality, is a result of power always and essentially material. Power is the original generick perception, and the root of all others in species, sub-species, and varieties. It produces the perception of *feeling* mechanically from the action of masses; and then the eyes, ears, nostrils, and palate economize, characterize, specialize, and assimilate to the medullary system the actions or power of atoms, while the re-actions of the parts conveyed to the brain, or ganglions, are sensations, and their reflections what we call perceptions. Power, or matter in motion, therefore, is the primary and immediate cause, not only of all physical effects on the largest scale, but also of all organization and assimilation of parts, and of all medullary energy or mentality. The universe is power displayed in and upon a system and systems of matter producing all phenomena, by laws arising from varied cross, and reflected simultaneous, displays of itself.

Generick causation, or excitement, is some matter in some motion; and all human or animal ideas result from the economization or appropriation of this general cause and its varieties by the instruments of the senses, which generate or create peculiar ideas of light and colour, sound and tone, taste and smell, all of them varieties of feeling, which is mere impulse, or percussion on the nervous or medullary system. Nature has but one mode of action, varied in intensity; and the varied nervous perceptions of that mode are created by the instruments of the senses, which uniform perceptions, as such, are generated or created by the powers of the sensual instruments, and constitute, according to this system, animal experience, education, and knowledge.

Attraction, or the principle of action by which bodies are imagined mutually to affect one another, so as to

move towards each other, is, in all cases, an utterly impossible mode of action; because each of the bodies, in going towards the other, requires to be impelled from its remote side where the other body is not, and where, of course, it is not in power.

Every case of sensible going together and sensible separation, has therefore some special cause, the examination of which constitutes the knowledge of nature; while the use of the terms, without the examination of the cause, veils knowledge in a circle of ignorance.

Gravitation, as a supposed innate power, was noticed by the Greeks; and particularly by Seneca, who speaks of the moon's attracting the waters. Kepler enlarged upon it; also Fermat. After which, Dr. Hook published it as a system; and it was subsequently adopted by Newton: but it is evidently of the same nature as witchcraft or enchantment. It is a presumption of a cause, without mechanical connexion of the cause with the effect.

Repulsion, or the principle of action by which bodies are assumed to repel one another, or by their mutual action push each other to a greater distance, is universally an impossible mode of action; because each of the bodies, while moving from the other, is in force only in the direction in which it is moving, which is contrary to the direction of the other body.

Bodies are accelerated by any force constantly acting. The velocity is equal to twice the distance multiplied by the time. The distance equal to the distance in one second, by the square of the time. And the time equal to the velocity, divided by twice the distance in a second.

Plenum signifies space, completely filled with matter; and *vacuum* a space entirely devoid of matter. Neither is probably the fact; but space is filled with power, *i. e.* by atoms, whose motions enable them to occupy every space, with power to the local exclusion of other matter not in greater power.

All the forces of nature may be explained on the principle that *they are matter, or atoms in velocity*, or are immediately moved by such; and astronomical and chymical phenomena are all reducible to this simple and universal mechanical principle. The fall and weight of bodies are owing to their being part of a system, or spherical aggregation in orbicular and rotatory motion. The planetary motions arise from the radiation of a central force as that of the sun, in a medium which occupies space. The elastick force of gas arises from the atoms being in circular motions, and all animal force and all heat arise from the concentration and appropriation of those motions. We live upon a world in motion, and within a world of atoms in motion.

Mathematicks examine and properly treat of abstract number and quantity; and can legitimately be extended only to mechanical action as motion (number), and matter (quantity), the rectangle of these being momentum. They serve also as symbols to illustrate. But it is gross sophistry to mingle mathematical science with any assumed powers not mechanical, or within the scope of mechanical investigation, while this is the ignominious practice of all modern physicks.

Forces which are not supposed to be derived from other motions, are, of course, original and miraculous; and such are those taught by the philosophy of the dark ages, called attraction, repulsion, gravitation, and the like.

Sympathy or affection, and antipathy or aversion, mere mental or nervous phenomena, are, by a false analogy, allied to attraction and repulsion; and to this supposed analogy, is owing the popular belief in these pretended qualities of most matter.

Most natural phenomena have, for two centuries, been explained by conferring gratuitous powers on the natural agent corresponding in name with the phenomena; but, it may be justly questioned, whether the agent is not single and simple, and whether the re-agents are not in most, if not all cases, the causes of the peculiar phenomena. Thus, heat is ascribed to heat-making atoms; bodies, going together, is ascribed to attraction; life, to a principle of life; tangent motion, to projectile force, &c.

Some phenomena, whose explica

tion is not easy, present themselves, and, instead of connecting them by due research in mechanical science, the powers of witchcraft are invented, and all nature is then mystified instead of being explained.

The errour of faith, in witchcraft and enchantments, lay in the belief of causes not proximate, mechanical, and immediate, either by actual contact or material intervention. Masses and atoms are alike acted on mechanically.

When we speak of oxygen, nitrogen, and hydrogen, we merely give names to various elementary powers, and do not precisely define. The words are often abused by inadvertency. When we say that hydrogen fixes oxygen and generates heat, we do not exactly mean that the hydrogen and oxygen of our experiments so combine; but that some combination of some property, always allied to oxygen, combines with some property always allied to hydrogen. This property we call the principle of each, but from that principle our observations may be very remote. So, if oxygen and nitrogen produce electricity, we are not to refer to our oxygen and nitrogen, but to some ultimate fundamental principle of each, which nature detects. If each produces light and heat, these in fire and electricity are as different as hydrogen and nitrogen; and the oxygen being common, the differences arise from some variance in the fundamental principles of hydrogen, and nitrogen when combining with oxygen. In burning and flame, carbon is a necessary adjunct; and, in electricity, it is seldom, if ever, the mere re-combination of oxygen and nitrogen; for in air there is aqueous vapour, and different substances employed as conductors, afford different colours and intensities, arising, no doubt, from the elementary principles combined. We believe that oxygen, nitrogen, and hydrogen, are merely elementary atoms in different degrees of motion; but there may be different kinds of atoms in the same motion, or both—(but we may be wrong)—only the hypothesis seems to explain the phenomena plausibly.

Among modern metaphysicians, Gassendi taught that all our ideas are derived from, and compounded of, sensations. Hobbes taught the same; and Locke followed them, superadding *Reflection*, or ideas derived from the operation of the understanding, posterior to ideas derived from sensation.

Leibnitz taught *a pre-established Harmony*, by which the mind contains general notions and truths, like the plant in the seed, so that, according to him, "every thing goes on in the soul as if it had no body; and in the body as if it had no soul." Malbranche maintained, that the communication between the mind and body was a constant miracle, arising from the immediate agency of the Deity.

Opticism, or the doctrine that this is the best of all possible worlds, was an inference from *the pre-established harmony*, which was assumed to be formed by the Deity, and therefore perfect. Another phrase of Leibnitz was *the law of continuity*, meaning that motion is never lost, which, extending to soul, he maintained that it never ceases to think even in sleep or in a fit. Nature, says Helvetius, never proceeds *per saltum* (never jumps), and the law of continuity is exactly preserved.

The two great principles of Leibnitz were, that it is impossible for a thing to be, and not to be, at the same time; and that nothing is without a sufficient reason why it should be so, rather than otherwise.

Descartes taught a plenum of matter; and Spinoza the divine omnipresence, in that matter which he called *the soul of the world*.

Collins taught that a man can do as he wills or pleases; but that he is determined by his reason and his senses, *i. e.* differently from the absolute necessity of mechanicks or physicks.

Berkeley maintained that the existence of matter was purely ideal, and supported this by certain inferences of the mind during vision.

Sir Isaac Newton avowed his object to have been, the proof of the existence of God, which was necessary to the miraculous powers of attraction, repulsion, gravitation, *vis inertia*, and projectile force, with which he clothed matter and the

planets. He rejected the law of continuity, and considered those powers as restoring lost motion.

Space and Time, says Law, have no external representation or objective reality; and these ideas, as well as infinity and number, are created by powers of the mind.

Hartley taught, and Bonnet after him, that the ideas were communicated to the mind by vibrations, assisted by a subtile elastick ether, with which the nerves are imbued.

Helvetius ascribes the differences, in the minds of men and brutes, to bodily conformation and organization; Blumenbach, to the different quantities of the medullary substance in the brain. Gall, to the parts of the brain principally developed. Cuvier agrees with Blumenbach and Helvetius.

Mr. Hume rejects, or doubts, all knowledge not derived from the senses, *i. e.* those ideas derived from reflection, or the operations of the understanding; and, to get rid of the causes invented by Newton, and which he was told were demonstrated, he denies the assumed necessary connexion of cause and effect.

Dr. Reid controverts the theory that sensations are the only objects of thought, and that perceptions are images, or pictures in the mind, and conjoins innate principles as powers, which he calls common sense.

Leibnitz says, a substance is a thing capable of action, and a compound substance is an aggregate of *monads* which have no parts, and are neither extended, figured, nor divisable, being the real atoms of nature or elements of things.

The metaphysical philosophy of Kant consists in six axioms:—1. Consciousness or egotism. 2. Time, the *form* of internal sense. 3. Space, of external sense. 4. Sense for intuition. 5. Understanding for conceptions; and 6. Reason for ideas. Intuitions are, he says, present in time and space; Conceptions absent in time and space; Ideas, things out of time and space; and the three generate mind. He then asserts, that *time* and *space* are in the mind, and are the receptivities of *sense*. *Understanding* he refers to the four categories of quantity, quality, relation, and mode; and their species, unity; Many, the whole; Existence, negation, size; Property and Accidents, cause and effect, action and reaction; Possibility, certainty, necessity. Reason, he founds on the categories in their absolute sense, as totality, limitation, substance, cause, concurrence, necessity.

Philosophy is divided, by Kant, into Physicks, Ethicks, and Logick. The two former are *material* sciences, which take cognizance of external or internal facts; whereas the latter is purely *formal*, and treats only of the *form* and connexion of our thoughts.

Sense is the faculty which receives the matter of all the phenomena of nature; it is therefore *passive*, and has only two modes or forms of receiving. It consists therefore of the two receptivities, time and space.

Reason is a faculty that acts quite independently of time and space, by its *six pure activities*, which are the Six Ideas—Absolute Totality; Absolute Limitation; Absolute Substance; Absolute Necessity; Absolute Cause; Absolute Concurrence.

Mathematicks is the science o the laws of the *Sensitive Faculty* or of the two mental receptivities Time and Space.

Metaphysicks is a pure rational science that contemplates the rational grounds of all that presents itself to the mind. Hence we have metaphysicks of nature, or the sciences of ontology and cosmology; and metaphysicks of morals or the sciences of psychology and theology.

Philosophy investigates the faculties of Sense, Understanding, and Reason, and their results, *Intuition*, *Conception*, and *Idea*, together with their application. Intuition, present in Time and Space. Conception, absent in Time and Space. Idea, out of Time and Space.

An Intuition is every thing *present* in Time and Space, that we feel, see, hear, taste, or smell.

A Conception is every thing *absent* in Time and Space, that we think of only, but do not touch

An Idea is every thing *out of* Time and Space that we think of only, but which can never come into Time and Space.

This philosophy teaches that we have knowledge *à priori* which is both universal and necessary, and is therefore not derived from experience; that objects are only given to us by the united operations of sense and understanding, and that reason itself has the power to generate pure knowledge *à priori*. The object of the "Critick of pure Reason" being to establish that we have synthetical judgements *a priori*.

Of all the matter that is given to the mind, it is impossible to meet with any that is not contained in the two receptacles Time and Space. Therefore Time and Space contain the sum and substance of all our knowledge, and Time and Space themselves exist in the mind, for as knowledge really does exist in the mind, that which contains it must be in the mind also; hence Time and Space, say the Kantesians, are in the mind.

Mr. Locke ascribes the alleged inferiority of the reasoning powers of brutes to their inability of abstracting or making general ideas; but other writers doubt whether men ever make such; and most of them admit that all animals reason by analogy, because old ones are more sagacious than young ones, and because few of them incur a second time a danger they have once experienced. What are called habits and instincts, appear to arise from construction and capability, producing resulting practices, which the experience of generations proves to be the most fit and convenient to their power and natural constitution.

Locke's doctrine, that we have no innate ideas, and that all our ideas are compounded of sensations, was previously taught by Gassendi and Hobbes. "External objects," says Mr. Locke, "furnish the mind with the ideas of sensible qualities; and the mind furnishes the understanding with ideas of its own operations."

Logicians teach five rules of conception, or perfect reflection, as follows:—

1. Conceive of things *clearly* and *distinctly* in their own natures.

2. Conceive of things *completely* in all their parts.

3. Conceive of things *comprehensively* in all their properties and relations.

4. Conceive of things *extensively* in all their kinds.

5. Conceive of things *orderly*, or in a correct method.

Hence every perfect idea includes clearness, completeness, comprehensiveness, extent, and system or order.

Astrology is an errour, because it connects certainties with mere probabilities; but not such an errour, as very ignorant though popular writers would make it. For example, no astrologer views the heavens in making predictions; but merely consults an ephemeris, for it seldom happens that half the planets are above the horizon, and, if so, no eye could fix their positions. Nor is the erection of a horoscope of the twelve houses, or equal divisions, an affair of calculation, but it is formed in a few minutes. Only the slightest knowledge of addition and substraction is required, and the pompous nonsense in books and novels proves, to demonstration, that the art practised by these writers of connecting words and paragraphs is altogether distinct from knowledge of their subjects.

Astrology, prophecy, &c. imply fate; but the mistake arises from this principle, that all possible events are within a certain probability. If, then, 100 events are foretold with various probabilities of coming to pass, a certain number, as half, a third, or two-thirds, must always happen as foretold; and however or by whatever means foretold. The means merely relieve the prophet from the palpable imposture of inventing his prognosticks. One means are as good as another for this deception on the understanding; and whether 100 probable events are foretold by the sediments of tea-cups, planets, entrails of birds, shuffling of cards, dreams, pricking in a book, or moles on the body, some 30, 40, 50, or 60, are equally likely to come to pass.

There are two species of necessity often confounded and mingled, physical and moral, but really distinct. The laws of nature are imperative, and hence the government of physical necessity; but the moral, social, and personal relations of man are indifferent to nature, and therefore perfectly free.

It is proper to distinguish between facts or certainty, and what is called fate. A thing is what it is, and is not another thing. This is a mere fact. An event happens one way, and not two ways. This also is a mere fact, and nothing but the mere fact. But the causes, or actions and reactions, are independent of each other, and various in kind; and therefore the production, or event, is distinct from any of the preceding causes taken separately, while each of them are independent of the others. To constitute fate or destiny, the causes which go before the result must be as necessary as it, and concurring for that special purpose. There is a general *certainty* that there must always be *some* result; but some result is not a special result, which, therefore, is not necessary.

In animal actions, the judgement, decision, and action depend on the fluctuating and variable experience of the animal, as a selfish individuality or microcosm, and therefore no animal decisions or actions are necessary.

The final cause of animal existence in such variety and numbers, is their reciprocal use to each other in fructifying the soil, and adding to the natural food in vegetation. This they effect by respiration, and by chymical decompositions in the laboratory of their bodies. Without their excrements and remains, the soil would become arid, and all the pabulums of vegetation would be volatilized and dispersed. Hence, nature peoples every leaf, flower, stem, and pore, and the end is effected by the countless multitudes. They manure the soil, sustain vegetation, and, in return, vegetation sustains them. It is a circle of existence, in which each part and every link is useful and necessary. The manure of insects and animals converts soil into vegetables, and these again sustain animalization.

When water is raised into steam, we see, by the microscope, small spheres like bubbles formed; and this is always the form which aqueous vapour assumes while evolving from its mass of fluid. It is therefore to be suspected, that these spheres consist of atoms in various excitement of rotation, like the atoms which form the surface of a planet. They are products of the excitement which produced the evaporation, and then this excitement being motion, any cold body, or medium, takes off the motion of these little spheres, and they then fall together in drops. This seems to be an analogy by which we may infer the structure of all gases. It is difficult to conceive the orbits of simple atoms, and in this way, as spheres, all may work together, and the different parts of these spheres may, in power, constitute what we call elements. The equatorial parts the more active, and the polar the more sluggish. The oxygen of the atmosphere may be in equatorial activity, and the nitrogen in relative inertness.

The perception of objects is made by impressions on the intermediate senses; but strong recollections often reverse the process, and perception creates on the sense an impression equivalent to the usual external action. Often, too, the senses become diseased and perceptions arise from the disease and excitement of the sense. These are, and have been, the causes of all those mistakes and illusions which ignorance and superstition have ascribed to supernatural agency. Hence all the ghosts, visions, knockings, &c. &c. when not frauds and falsehoods.

In physiognomy a habit of mind begets a cast of features, by which the mind may often be inferred. So the development of parts of the brain enlarges the power of those parts, if opportunities favour, and some general deductions may be made; but not with the precision assumed by phrenology or craniology.

That perception, memory, volition, and all the mental phenomena, are in some way associated or dependant for their healthy action on the brain, cannot be for a moment questioned.

Herman Goltz passed many years in anatomical examination of that delicate viscus, the dead brain, endeavouring to discover some coincidence between its marvellous structure and its important uses. To this end, the whole concentrated force of his acute intellect was directed. Sometimes he was elevated by the hope that he had ascertained the source of the reasoning faculty, and the seat in which the passions are generated; but these gleams of success were transient, and were succeeded by total obscurity. At one period, he conceived that he had actually drawn aside the curtain, and beheld the mysterious processes that are performed in the occult laboratory of nature; but he confessed himself deceived, and afterwards cordially acknowledged that the curtain itself was a mere delusion. Exhausted by these sudden alternations of hope and disappointment, the fabrick of his understanding gave way, and, in a moment of despair, he hanged himself in his dissecting-room, and was nearly devoured by the rats before his loss was discovered and his fate deplored. Before he accomplished his last resolve, he wrote on a slip of paper these impressive words: "For more than *twenty tedious years* I have pursued a phantom, an *ignis fatuus*, that has decoyed me into ruin and misery. My vision has become so dim, that I can no longer distinguish the objects of my research; my hand is too tremulous to hold the scalpel. Confined in this charnel-house, I have been estranged from nature's fair and inviting prospects; I have cultivated no man's friendship, nor sought for the affection of woman. I have indeed read of the charms of society, the exhilarations of wine, the delight of a domestick partner, and the blessedness of children: but I have been a solitary student; water has been my only beverage; no females can reproach me with professions, nor can a child curse me for existence. To live longer is useless; the past has been misemployed; the present is wearisome, and I will anticipate the future."

The notion we annex to the words, matter and mind, says Stuart, is merely relative. If I am asked, what I mean by matter, I can only explain myself by saying, it is that which is extended, figured, coloured, moveable, hard, soft, rough and smooth, hot or cold; that is, I can define it in no other way, than by enumerating its sensible qualities. It is not matter or body which I perceive by my senses, but only extension, figure, colour, and certain other qualities, which the constitution of my nature leads me to refer to something which is extended, figured, and coloured. The case is precisely similar with respect to mind. We are not immediately conscious of its existence, but we are conscious of sensation, thought, volition—operations which imply the existence of something which feels, thinks, wills, &c.

POLITICAL ECONOMY.

Political Economy is a speculative science, whose data are often vague, and conclusions subject to the errours of system. When founded on arithmetick its reasonings do not in general apply to society, which is a compound of facts, affections, and passions, not to be controlled by the despotism of figures; while the multiplied relations of society constantly baffle isolated considerations. Nevertheless, it has corrected some errours, and established a few truths amidst a greater number of absurd and mischievous dogmas.—Some of its more popular truths are the following:—

That national wealth does not consist in mere money or coin.

That what one nation gains by commerce or manufactures, another does not lose.

That national superiority does not depend on repressing the industry, and impoverishing the resources of other nations.

That it is not better to make at home every thing we want, rather than permit other nations to profit by selling to us.

That national prosperity is not to be judged of by the balances of trade, as represented by custom-house entries.

That statesmen and legislators do not know better how to direct the various branches of industry, and the

employment of capital, than the individuals who draw their subsistence from them.

That commerce and manufactures cannot be aided by artificial restrictions, limitations, and modes of taxation.

That no country can be enriched by compelling the people to purchase, during an indefinite length of time, inferiour commodities at exorbitant prices.

That capitals cannot be changed in their direction, and forced by governmental regulations out of their habitual channels, without injury to individuals, and disadvantage to national wealth.

That population is not always and by all means to be encouraged.

That luxury and profuse expenditure, by encouraging industry, are not beneficial to a country; and frugality the reverse.

That taxes impoverish a nation, though spent at home.

That high taxes are injurious, though they urge to great exertion; and, though spent at home, do not foster industry.

That governmental expenditure does not operate merely like taking money out of one hand to put into the other.

That a national debt is a national curse; and paper money synonymous with destitution.

That colonies are not advantageous to the mother-country, owing to any monopoly they afford.

That chartered companies, exclusive privileges, and monopolies, are injurious institutions, in regard to commerce and manufactures.

That national splendour is no sure sign of national wealth and national happiness.

That the prosperity and increasing riches of manufacturers is not the same thing as national prosperity.

That we should not make laws to increase the wealth and influence of great capitalists, and put the poor who work for them more completely under their subjection.

We ought not so to frame a national system, as to make the rich richer, and the poor poorer.

That it is expedient to allow an industrious man to purchase the articles he stands in need of, at the best market, and the cheapest rate.

That laws ought to operate with equal advantage to all classes of the community, and protect all classes equally.

That restrictions, high duties, and prohibitions on imported goods, do not render domestick manufactures cheap.

That restrictions, high duties, and prohibitions are not necessary to furnish employment for our people at home: agriculture and commerce, and the trades connected, being adequate for that purpose.

The best patriots are the advocates for free trade, and free ports among all the nations of the earth.

The first book of the modern principles of political economy, was the treatise of Sir Dudley North, in 1691, entitled "Discourses on Trade, principally directed to the cases of interest, coinage, clipping, and increase of money." Nothing of importance appeared in England from that time till the publication of Sir James Steuart's Principles of Political Economy, about the year 1768, which was completely superseded by Dr. Adam Smith's Wealth of Nations, in 1776. Political Economy was first treated as a science by the French "Economists;" at the head of whom was Dr. Francois Quesnay, Physician to Louis XIV.; who was born in 1694, and died at Versailles in 1774, at the age of 80. In 1758 he published his Tableau Economique, et Maximes Generales du Gouvernement Economique.

Dr. Quesnay was followed in the same career, by the Marquis Mirabeau the elder, Mr. Marciere de la Riviere, M. Dupont Nemours, M. Turgot, and his biographer Condorcet.—They did much to introduce the genuine principles of free trade, and the liberal notions that characterize the modern science of Political Economy. From this time to the publication of Dr. Adam Smith's Wealth of Nations, in 1776, nothing appears to have been done worth detailed notice in addition to the labours of the Economists.

The next step in the advancement of this science, was the Essay on the principle of Population of Mr. Malthus. The intent of this Essay was to show that population de-

pends on subsistence; men and women cannot be raised unless they have food to eat. 2. That plenty of food increases population, by enabling marriages to take place, and children to be raised. All this had been observed before by M. Herbert in his Essai sur la Police des Grains, 1755; by Mr. Wallace in his treatise on the numbers of mankind; by Dr. Darwin in his Botanick Garden; and by Mr. Townsend in his Dissertation on the Poor Laws, 1786.

The works of M. Storch, of Petersburgh; of M. Ganilh; of M. Sismondi; but above all of M. Say, have contributed to throw light on this science, among the Sçavans of the continent.

In Great Britain, during this period, the most important work published, was "The Principles of Political Economy and Taxation," by Mr. Ricardo. 1817.

The positions thus laid down by Mr. Ricardo, have been followed by Messrs. M'Cullock and Mill; and constitute the difference between the old school of Dr. Adam Smith, and the new school, of which these writers seem to be at the head.

Political Economy then treats of the sources, the production, the distribution, the accumulation, and the consumption of national wealth: the effect of those institutions on society which are immediately connected with the increase or diminution of national wealth: and the effects produced on society itself by its increase or diminution. The end and object of this branch of knowledge, is to show in what manner, and by what means, the physical gratification of human wants can be most equitably, conveniently, certainly, and effectually distributed among all the classes of society.

Wealth is a plentiful possession of those material objects on which exchangeable value has been conferred by human skill and labour—which are desired for the gratification of human wants—and which cannot be obtained by those who seek them, but by giving some other object in return, equally desirable to him who receives it. The wealth of an individual, or a nation, consists in the abundance and cheapness of those articles which are useful or desirable for the gratification of human wants. Hence wealth may increase where price diminishes. I can afford to lay out five dollars in silk stockings at the present price: let the price or exchangeable value be reduced one half: then one half of five dollars will answer to me an equal purpose.

Riches is a word synonymous with wealth. The last expression (wealth) being gradually adopted by writers on political economy in our own language, I have used it also. The French use the word Richesse; meaning, as we do, plenty of whatever is desirable to man on account of its yielding pleasure, or contributing to our comforts, or necessities.

Sources of Wealth.—Labour employed in conferring on a raw material some property or quality that renders it desirable. Skill and capital are usually necessary for this purpose; but these, by ultimate analysis, are resolvable into labour.

Labour.—Human exertion employed to produce or confer some desirable quality or property (that is, exchangeable value,) on some raw material. Hence labour is the main or rather the only source of wealth. Labour is, for the most part, hired and exerted for the sake of the wages or remuneration paid by the employer. When we speak of labour, we usually refer to the mere bodily exertion of a day-labourer, exclusive of acquired skill. Political Economy itself may be considered as that science which determines the circumstances that influence the productive power of human labour, and the distribution of the proceeds.

Wages.—That portion of the money-value of the commodity produced, which the labourer receives as his compensation: in other words, the money or other useful commodity given as a compensation to the labourer for his labour. This must be so much as to ensure to the labourer and a moderate family, a portion of the necessaries of life, sufficient to sustain bodily strength. Hence, all taxes on the necessaries of life either enhance wages, or reduce the labourer to want. Wages are higher when combined with skill, which is acquired by previous labour and may

in fact be considered as capital. Thus the wages of a painter or sculptor are far greater than those of the weaver of the canvass, or the digger in the quarry.

VALUE.—Utility, real or fancied, conferred by skill, labour, and capital. Thus, a piece of glass made into spectacles, has real utility conferred on it; a piece of glass cut in imitation of a diamond, has fancied utility conferred upon it. In both cases exchangeable value—that is, some desirable quality has been artificially conferred on the rough and worthless material.

PRODUCTIVE LABOUR OR INDUSTRY.—That which confers exchangeable value on any material object, which it did not possess before; or which confers skill and knowledge, which can be used in conferring value; or which are in themselves valuable and saleable, as the knowledge of a lawyer or an engineer.

UNPRODUCTIVE LABOUR OR INDUSTRY.—That which is expended without producing value, or contributing to produce it.

PRODUCTION.—The formation of any thing desirable, or that constitutes wealth. It is the result of labour.

PRODUCE.—The effect of productive industry employed upon the soil or land.

PRODUCT.—The effect of productive industry employed in rendering any material substance valuable. Nearly synonymous with the popular word "Commodity." A product generally depends on the productive agency of nature, of skill, labour, and capital. It is for the most part the combined result of these. Thus, in a steam-engine, the skill, labour, and capital are employed to render the natural agents fire and water productive.

LAND.—Includes soil, waters, fisheries, vegetables, rocks, mines, and minerals. Land supplies raw material and food.

PRODUCTIVE AGENCY OF NATURE, then, is the useful effect of natural agents, whether guided or not by human industry: as the Sun, the Rain, the Soil, in Agriculture; as Wind in a Windmill, in a Ship, in a winnowing machine; Water in a dam; Heat in a furnace, steam, &c.

INGREDIENTS OF VALUE.—Cost of the raw material, which is sometimes paid in the form of rent: as for brick-earth near a metropolis like London; for land containing porcelain clay: for a marble quarry; for ozier swamps on river banks, to make baskets; for a quarry of burr-stone, for a mine, &c. The intrinsick value of raw material before any labour is bestowed upon it, depends on its plenty or scarcity, or the difficulty or facility with which it can be procured, and its capability of receiving value by means of skill, labour, and capital employed upon it. A handful of mud is of no value; a handful of raw diamonds may be of great value. The next ingredient of value, is wages of the labourer (that is labour) employed in producing and conferring value on this raw material; then the profits of the capital necessarily expended in purchasing the raw material, paying the wages, furnishing the tools and implements, &c. This also is reducible to labour.

MEASURE OF VALUE.—The actual practical measure of value, is, the average money-price of the article in question, at the given time and place; and it is the average, because the money-market, or current price, will be sometimes a little higher, sometimes a little lower than the natural price, owing to temporary fluctuations in demand and supply. It is reducible to the quantity of labour the article can command. Money is the representative ultimately of labour.

PRICE.—The amount of other products which any useful article will command in exchange. This is exchangeable value. The elements of price may be considered as being wages and profits; whether rent or the cost of raw material ever enters into the calculation of price is doubted by some. In agricultural produce it certainly does not. In some cases, where the raw material is scarce and dear, I think it does.

MONEY PRICE, MARKET PRICE, CURRENT PRICE.—The amount in current money which any useful or desirable article will command when exposed to sale. This depends permanently on the natural price. and

occasionally on the demand compared with the supply. Market price is the price for the time being.

Real Price Natural Price, consists in the cost (if any) of the raw material, the amount paid in wages for the labour expended upon the article, and the usual profit on the capital employed upon it; all reducible to the labour expended upon it before it be fit for market. It is that price which will enable the seller to reproduce the article in the same market, with a reasonable profit. If this cannot be obtained, supply ceases. Prime cost will be this natural price, deducting the profit on the capital employed.

Social Price.—The price that commodities bring when influenced by restrictions, monopolies, taxes, and legislative regulations. Thus, the natural price of a bushel of wheat or the amount of labour necessary to grow it and bring it to market, is one thing; the price of the same wheat influenced by the corn laws of Great Britain, is one half more. This last is the social price.

Glut.—Over production: so that the market price falls below the natural price. A glut may be of a single commodity, or of a great number. It may be of longer or shorter continuance. In England, for some years, it has been so extensive and continued, as to be almost general, owing probably to the immensely productive power of machinery, and the unequal distribution of wealth.

Raw Material.—Any material object employed to receive value, or to have utility conferred upon it by human industry, skill and capital. It has, therefore, a natural value dependant on its capability of receiving artificial value.

Commodities.—All articles possessing exchangeable value, and commanding price.

Exchangeable Value.—That property conferred on any raw material, by means of human skill, labour, and capital employed upon it, that makes it so desirable as to induce other persons to give for it some other valuable article or commodity in exchange. Human skill and labour therefore are productively expended, not in producing the commodity or article itself, but the useful or fashionable property which makes it desirable and sought for by others—producing and conferring that value which causes the commodity to be in demand. Useful articles that nature has provided in abundance, such as air, water, fire, light, have no exchangeable value in their natural state; any person may without price obtain as much of them as he need. The exchangeable value of an article increases with the quantity of skill, labour, and capital necessarily employed in producing it. This value then consists in the power of purchasing other goods, conferred by its possession.

Revenue, Income.—The annual amount of money or other valuable commodities which a man is entitled to, or receives, whether as landholder in the form of rent—as agriculturist, manufacturer, or merchant in the form of profit—as a member of one of the learned professions in the form of fees—or as a magistrate or publick officer in the form of salary—or in any other lawful way.

Expenditure.—That portion of a man's revenue which he lays out or expends for the gratification of his immediate wants: and which being consumed, produces no further profit or advantage than the gratification of his wants. This expenditure may be prudent or necessary, according to his situation in life; but he is nevertheless poorer in proportion.

Consumption.—Produce may be eaten up, worn out, destroyed, consumed, for the personal gratification of the possessor, without view to future profit. In this sense it is synonymous with expenditure as above explained: and is unproductive; as the wines on a rich man's table.

But it may be eaten up, worn out, destroyed, consumed, for the purpose of maintaining labourers, buildings, tools, machinery, &c. with a view to future profit: this is productive consumption. Productively or unproductively, whatever is produced is consumed on an average, in about a year. Governments are great consumers, and usually with enormous waste.

CAPITAL.—That portion of a man's revenue which remains as a surplus or saving after all his expenditures are made. A surplus which may be laid out to produce further profit or additional revenue.

CIRCULATING CAPITAL.—A popular phrase in use to express that mass of revenue, whether belonging to individuals or to the government of a nation, which is laid out and expended in commodities wanted, whether for immediate consumption or future profit; whether destroyed and consumed in the form of present expenditure, or destined to form a part of accumulated capital, as the basis and source of future additional income. Circulating capital must not be confounded with circulating medium, which last consists of the gold and silver coin, and paper money of a country; and serves no other purpose than to facilitate, by means of a common standard of reference, the interchanges and barterings of the circulating capital, which is of far greater moment and amount.

WEALTH is a relative term, for as there is only a certain amount of property in a country, so the possession of a large share by one man is the poverty of others. The wealth of individuals is therefore no benefit to the country, while as to others it is the cause of their poverty. If all the property in a country is worth a million, and one man has half a million, there remains but half a million for all others, and if nine or ten possess nine-tenths the rest would be poor. This principle of accumulation, the curse of advancing, or old, society, is favoured by the substitution of money for barter; since goods could not be accumulated like money, and money is therefore properly denounced as the root of all evil, and it is declared that no rich man can enter the kingdom of heaven. To correct these mischiefs, the inducements to accumulate should be diminished by fixing a very low rate of interest for money in comparison with the wages of labour or the profits of industry. Money, as an artificial convenience, ought not to be allowed to be abstracted, and usurers should be systematically discouraged, for the general benefit of the whole community. Interest of money is the slavery of the borrower to the lender, and there ought to be as few slaves as possible, while the slavery which exists ought to be of the slightest kind.

FIXED CAPITAL consists of the workshops, warehouses, buildings, tools, and other conveniences necessary to produce future profit by means of the capital thus invested in them. These, in mercantile and manufacturing language, constitute the plant of a merchant or manufacturer. The stables, the barn, the granary, the sheds, the carts, the wagons, ploughs, harrows, and other implements of husbandry, the horses, cattle, &c. of a farmer constitute his plant or fixed capital. Plant is a metaphorical term, as if a man were planted and rooted where his fortune is to be made and grow.

STOCK, produce of accumulated labour, kept for the purpose of being employed with a view to further profit.

PROFIT is not the excess which a man receives for any saleable commodity beyond the real or natural price which includes profit, but the return in value which he receives for laying out and managing or superintending his capital. When a man brings to market an article possessing exchangeable value, it has already cost him the price of the raw material, the amount of wages employed upon it (greater in proportion to the skill required) and the legal interest of the capital employed upon it. This is the prime cost. To this he adds the usual profit upon his capital. The usual rate of profit in a country regulates the profit in particular cases. This usual rate of profit is principally regulated by the profit of agriculture, the earliest and most common of all employments, but attended with the minimum of profit.

RENT is the price paid to a landowner, for the loan of capital in the form of land, of houses, warehouses, water-power, machinery, &c. Clear rent is that which remains to him, after deducting interest of capital, expenses, and all out-goings. Rent is lower than profit; because the receiver of rent is put to no trouble, is called upon for no skill, and incurs

no risk. At least, this the case where rent is paid in money. Those who embark capital, as agriculturists, merchants, or manufacturers, must employ their capital, under the direction of technical skill, previously and laboriously acquired; and they generally incur some risk of losing their profit, either from want of demand for the article, or insolvency in some of the purchasers.

INTEREST is the rent or compensation paid for the use of capital, generally of capital in the form of money loaned to some person, who, by the addition of technical skill, wishes to make profit of the capital loaned. As interest, like rent, is received without any trouble or risk incurred by the lender, it is always much less than profit. Generally, the average profit or capital in any country is three times the amount of the usual rate of interest, where business is transacted by wholesale.

PRODUCTIVE EXPENDITURE.—Capital saved out of revenue, and employed with a view of profit.

UNPRODUCTIVE EXPENDITURE.—That which is expended on articles that are consumed without any view to profit in consuming them: as in food, clothes, wine, amusements, &c It does not however follow, because expenditure takes place without any thing of value remaining, that it is useless. Useful expenditure is one thing, productive expenditure is another. It may be useful as the nourishment necessary to life. Still, not being so applied as to produce future profit, it is properly termed unproductive.

UNPRODUCTIVE CLASS.—Those members of society who do not labour in any manner, or whose labour may well be dispensed with, as contributing little or nothing to the gratification of those human wants in which it is innocent and desirable to indulge.

MONEY.—Some article or commodity, real or imaginary, employed to supersede the necessity of bartering or exchanging for each other, the innumerable variety of commodities that are demanded and supplied. So that every article may be valued in reference to some common standard of exchange, some common measure of value, which should, if possible, be devoid of value itself, except for this use to which it is applied. In some parts of Africa, the money consists of the shells called *cowries;* in other parts, of bars of iron. Most civilized countries have adopted the precious metals (gold and silver) as having an intrinsick value which fluctuates very little; for a common measure to be perfect, should be either of no value or of a value not subject to change. No known material possesses all the necessary qualities; the precious metals approach only to what we want.

Money, therefore, (whether coined money or paper money) has or should have no value itself: it is the unit or standard to which values are referred. It is the representative and exponent of wealth; it does not constitute wealth. A certain quantity in every country is necessary in proportion to the business carried on, to serve as a circulating medium, by means of which exchanges are calculated and facilitated. But beyond this employment of money its accumulation is useless; or rather detrimental. For if it be more abundant than the demands of commerce for circulating medium require, the money price of every article rises in proportion, foreign commerce is impeded, and the coin is sent off to countries where it bears a higher price. Money coined out of gold and silver has, within 25 or 30 years, been gradually superseded in great part by paper money; whether advantageously or not, all circumstances considered, is a question of doubt and limitation.

BULLION (gold and silver uncoined.)—These, when manufactured, have value as articles of commerce; for convenience and ornament independent of their use in coin. This value, as a useful and ornamental material, frequently occasions the market value of bullion to fluctuate; and operates as a considerable disadvantage in the use of these metals for coin. In the early stages of society, gold and silver being frequently found in a metallick form, were in greater plenty than iron and other metals, which required to be extracted by a long and difficult process from the ore. We see this in

Homer's Iliad. The value of gold and silver, depending on their scarcity, and on the amount of labour necessarily expended in procuring them, fell greatly soon after the discovery and intercourse with Spanish America.

Circulating Medium.—Any kind of money, any common standard of measure or value, whether of metallick coin or paper, that passes currently in payment for commodities that are in demand. Currency is the same with circulating medium.

Bank.—The circulating medium, currency, or coin of Europe, until about the middle of the last century, consisted chiefly of coin manufactured out of bullion: every country having its own coin, that served as a measure of value for all its domestick transactions, but was seldom employed out of the country. Abroad, coin passed, as it now does, only as bullion of a given weight and fineness; and therefore a loss was often suffered on remitting it to foreign parts, beside the risk and expense of transmission. Hence arose the substitution of bills of exchange.

Paper Money: paper currency.—This is usually considered as consisting of banker's promissory notes, payable on demand. But these by no means constitute the whole of paper money, or even the most considerable part of it. The other kinds of paper money in common use, are bank credits and bills of exchange, domestick and foreign, and merchants' drafts on each other. The merchant who draws this bill of exchange in consequence of having transmitted goods to the amount, either sells this bill to his neighbour, who has imported goods from the same country, or else he receives from his foreign debtor a bill of exchange in return, on some person in the country of the creditor, or within the circle of his dealings. The price of bills of exchange on a foreign country will depend, like every other commodity, on the demand and supply, and this will depend on the balance of trade between the two countries. If France sells to England to the amount of a million, and has bought from England to the amount of half a million, bills upon England will be plentiful and cheap in France, and bills on France will be comparatively scarce and dear in England. Exchange is limited by the trouble, expense, and risk of transmitting coin, for which it is a substitute. When the exchange demanded is higher than the risk and expense, the merchant refuses to buy a bill, but sends off his coin to pay the balance against him. Bills of exchange therefore are no more than contrivances to save the expense and risk of transmitting coin, and also to save the interest that coin will yield if employed at home during the interval of transmission.

Commerce is the sale and purchase, and general interchange of valuable commodities, by which the wants of men in society are supplied. It is divided into the home trade, the foreign trade, and the carrying trade. Commerce is popularly applied to the foreign trade. The object of commerce is the supply to one country of the productions of another; but avarice or profit leads to speculations and competitions which swell commerce to an unnatural extent, cause supply to precede demand, and create more miseries than any other evils with which mankind were ever afflicted.

Home Trade.—That sale and interchange of commodities which is carried on at home within a nation, and where the inhabitants of that nation are the sole customers and purchasers. The amount of the home trade, even in Great Britain, is about ten times the amount of the foreign trade. In every other country, from ten to twelve times. At home, each man spends about three-fourths of his income among his fellow-citizens. Foreigners purchase only what they are strongly tempted to buy.

Foreign Trade.—That commerce which is carried on between foreign nations. A merchant is employed in bringing valuable articles from a distant country where they are cheap, to another country where they are scarce and dear. A considerable benefit of foreign trade is the mutual communication of improvements in all things relating to the comfort of human existence.

Carrying Trade, consists in the carrying of exportable commodities from one nation to another, the gain consisting in the freight thus earned. This trade flourishes among neutrals when other nations are belligerents. Sometimes the neutral purchases the commodities of one belligerent and sells them to another.

The Balance of Trade has long been a bugbear with half-informed people, who look no further than custom-house entries; but, on a great scale, it is in fact in favour of every nation upon earth, or commerce neither would nor could be carried on.

Luxuries.—Any commodity purchased not necessary or expedient, according to the rank and fortune of the purchaser, and that occasions a disproportionate expenditure of income.

Stocks—Publick Funds—National Debt.—When the taxes are inadequate to the exigencies of the state, government draws upon posterity; borrowing from individuals, and paying them such interest as is agreed upon for the capital so loaned. This capital does not any more exist. It has been spent, merged, dissipated. The debt remains. The stipulated interest with which the community is burdened, is made transferable and assignable. The stocks, funds, national debt, are words designating this interest, which has become annually payable to individuals, for the capital formerly loaned by themselves or those they represent. The individuals who pay the taxes, destined to discharge this annual interest, are burdened in proportion to the amount assessed upon them; and, as all who possess property raise its price in proportion to the burden on them, so all taxes fall on labour, which, as the last term, cannot shift on any other class.

Population—Healthy Population.—By this last term is meant, that number of people in a community which is sufficient to supply the demand of labour, but barely so. The great mass of the people live more fully, more happily, where there is a constant demand for labour, than where that demand is insufficient to employ those who have nothing but labour to subsist upon. Every man who places himself in the market as a labourer to be hired, comes in competition with every other man in the same situation; and this competition has a tendency to lower wages, and of course to detract from the comforts, and encroach upon the necessaries of life.

Government is a term usually employed to designate and comprise the persons who control the legislation and constitute the executive power of a nation. In almost every country, what is called the Government is the most wantonly, extravagant and ill-managed establishment that the people have to support. This arises from mistakes in the political structure of the government. Mistakes, consisting in unnecessary officers of government, paid by extravagant and unnecessary salaries; in too much power conceded; or conceded for too long a period; and in the want of means to enforce sufficient responsibility on the part of those who govern. The system of government should be as plain to be understood, and as simple in its construction as possible. The agents and officers of government gain by mystery and complication. —*Professor Cooper.*

A SKETCH OF JEWISH HISTORY.

In the following sketch of Jewish History, it is only attempted to point out some of the most interesting circumstances connected with their existence as a nation, and their character as a people, as the same are developed in that portion of the Bible called the Old Testament. For the preservation of that part of the Sacred Scriptures, we are indebted to the Jews, and on this, as well as many other accounts, a summary of their History, Literature, and Character must always be of interest to the general reader. The delineation of the characters of some of the patriarchs, prophets, and kings, whose writings and acts form a large part of the Bible, and a notice of the literary beauties of the inspired writers, must tend to increase our respect for the sacred volume, and for the remarkable men from whom the Jewish nation are descended.

AMERICAN EDITOR.

As a piece of composition, the cosmogony of the Jews transcends all other in the world. It is brief, sublime, and holy; full of Omnipotence, Omniscience, and boundless love. All things sprang from the Godhead, without any thing that seemed like human effort, as in other cosmogonies. One part of creation arose after another, as rapidly as the human mind can comprehend it in description, and as beautiful and lovely as the imagination can conceive of it. Other creations arose, as the sport of heathen gods; but this in the Beginning was made for man; and the dominion over the beasts of the field, and the fowls of the air, was given to him, and the *greater and the lesser lights* were made for his use. "God said, let there be light in the Heavens, to divide the day from the night, and let them be for signs and for seasons, and for days and years."—And certainly these signs and seasons, days and years, were for man;—not for Himself, for to Him there is neither beginning of days nor end of years.

The disobedience of man, the loss of Paradise, the promise to him and to his seed, all follow in so direct a chain, and, if the expression may be allowed, so naturally, that we should rather pity the man, for want of taste and understanding, than quarrel with him, who wishes to substitute any thing else for this beautiful proema of the Jewish Scriptures.

The 1656 years from the creation to the flood, from the length of human life, swept off but few generations; and the father of Noah, the connecting link between the two worlds, the line before and the other after the flood, must have been in intimacy with the father of mankind.

From the flood to the call of Abraham, 427 years after the flood, the nations of the earth must have considerably increased, and were probably enlightened; for much of the knowledge of the antediluvian world was saved, it is supposed, by Noah and his sons. From the adventures of Abraham, we learn that the people around him were governed by kings, who were frequently at war. The knowledge of the true God, however, had been preserved by some nations, as well as lost by others. The language of mankind had previously been confounded, and they were no longer of "*one lip and one voice.*" Those acquainted with the science of etymology, find, in every day's advancement in knowledge, proofs of this fact, that all languages had one common origin.

The next epoch was the institution of the Passover—established to keep in remembrance the deliverance of the Jews from the *land of Egypt and the house of bondage.* This was 430 years from the vocation of Abraham. This comprised a most eventful period to the nation.—Isaac, and Jacob, and Esau, had lived, and the

sons of Jacob, in primitive simplicity; and the latter had gone down to Egypt, with their aged father, to better their fortunes, on the elevation of Joseph, the son of Jacob, and had passed from a favoured people to slaves. They had broken their way from Egypt, and ventured to seek a land of freedom, and one they could call their own; and this was done by the sword. This was 857 years from the flood; and the earth, at least some parts of it, had become thickly settled. The Asias were populous; and probably a good part of Europe was then peopled.

From the institution of the Passover, to Saul's accession to the throne of Israel, embraces a period of 396 years. This was passed in making and securing conquests; sometimes hard pushed by their enemies, beaten, and oppressed; and sometimes reacting with a vengeance that made their enemies beware of them.

From Saul's accession to the throne, to the close of the life of Solomon, was the *high and palmy state* of Hebrew glory. It was the lot of David to make his empire a military one—it was decidedly so. He was a man of war, and was surrounded by the most valiant band of heroes that any monarch ever had. His, too, was an age of literature. He surpassed all others of his nation as a poet and a scholar, and gave a mental tone to his people which they had never known before, although Samuel had opened the way for him by founding a school of the prophets. He elevated their poetical taste, and gave to the harp new strings, and to the choir new members. Jerusalem grew in his reign, and the twelve tribes of Israel assumed a high rank among the nations of the earth, as well for knowledge, as military prowess. The reign of his son Solomon was still more prosperous and glorious. David had weakened and subdued his foes; and Solomon had peace in his time. The riches of the world poured in upon him, and he displayed his grandeur with Oriental magnificence. He was wiser than all who went before him—"And Solomon's wisdom excelled the wisdom of all the children of the east country, and all the wisdom of Egypt. For he was wiser than all men; than Etan the Ezrahite, and Heman, and Chalcol, and Darda, the sons of Mahol; and his fame was in all nations round about. And he spake three thousand proverbs; and his songs were a thousand and five. And he spake of trees, from the cedar tree that is in Lebanon, even unto the hyssop that springeth out of the wall: he spake also of beasts, and of fowl, and of creeping things, and of fishes. And there came of all people to hear the wisdom of Solomon, from all the kings of the earth, which had heard of his wisdom." If Solomon had not more genius, he had more learning than his father, having had better opportunities in getting knowledge, as the son of a king, from the philosophers of other countries, than his father, the minstrel shepherd of Israel, could have had. If there was not so much knowledge and system in his father's compositions, there was a deeper devotion, and a sublimer imagination. Under such kings, the people must have been devoted to learning, for people imitate their rulers in every thing, and no little minds can find favour in the eyes of the great, when they themselves are enlightened. If the mighty mind of Bacon could be so far affected by fashion, as to imitate the quaint and pedantick style of King James, how anxious must those have been, whose common salutation was, "*O king, live for ever*," to imitate such splendid and royal examples as those of David and Solomon.

In the next reign, this people were divided among themselves, and never after stood so high among nations as before: After years of civil wars, of wickedness, and repentance—of success and misfortune—they were broken down and carried into captivity. In process of time they were permitted to return, and rebuild their temple, which had been destroyed. This period, from the accession of their first King, Saul, until their return to Jerusalem, comprises, according to chronologists, 559 years.

On their return to Jerusalem, the pontifical power was put over the kingly, and in this way they were generally governed for 536 years, to the coming of Christ;—sometimes, however, a neighbouring king claimed supremacy over them, and sometimes a Roman proconsul was sent

to collect the tribute imposed on them. Soon after the advent of Jesus Christ, the city of Jerusalem was destroyed, and the Jews scattered over the world.

There is no history so full of instruction as this. Its chronology is better than that of profane histories. It is written, not to extol any person, or blazon the deeds of any one; but seems an honest, straight-forward chronicle of events, naming the persons who were agents, and the events brought about. The characters of individuals are models for all times; there is no flattery about them; the faults of each individual are named, as well as their virtues. Every thing relating to the patriarchs is distinct and natural. How different is Isaac from his father Abraham: the former was a man of energy, faith, and determination; there was nothing feeble or ordinary about him;—but Isaac seemed formed only to continue the race of Abraham, for there is not one act of his life that could give him any distinction, except that he went out into the field to meditate; but in his sons, Esau and Jacob, there were strong characteristicks; and Jacob, in his dying blessing, as it is called, displayed the individual characters of his own children in a bold and striking manner.

The characters of Moses and Aaron are given us in a few words: Moses was meek and modest, and said that he *was not eloquent, but was slow of speech, and of a slow tongue;* but Aaron, it was said, could speak well; the one consulted, and advised in secrot; the other was spokesman to the people: but in often time, Moses was not so guarded but that in his anger he committed himself, although he was instead of God to his brother Aaron; nor was the high priest, whose eloquence could sway the people, proof against their complaints. In both, the superhuman gifts were mingled with human feelings, for lessons of instruction to all. This principle of giving the virtues and the failings of distinguished men, was never lost sight of in the Jewish history. The marvellous strength of Sampson was wasted in wild frolicks of daring—and his mightiest feats had a ludicrous air about them; even his death would probably have been disgraceful, if the spirit within him had not stirred him to make a sacrifice of Israel's enemies, to avenge himself of his wrongs. He was given for an example, that strength may be overcome by weakness, and wisdom by folly. The character of the prophet Samuel is traced from his birth to his death with astonishing minuteness in a few short chapters. The first moments of his early visions are recounted, and also his last acts, and the whole history of the Jews during this period is admirably carried on with the biography of this judge in Israel. The lives of King Saul and his son are only secondary to it, and seem intended merely for contrast and illustration.

The history of the age was not only in the biography of their leaders, but in their poetry also. An ode or poem was made to commemorate every great occasion, and sung by all who could sing a stave; and repeated on every anniversary of the great event it was intended to celebrate. On the passage of the red sea, Moses wrote a poem, and sang it himself; while his sister Miriam, a prophetess in Israel, sang the chorus. This song was an entire history of the event and was also an imperishable monument raised to perpetuate the gratitude of the nation. The song of Deborah, in which her chief general joined, was so descriptive of the misfortunes of the country before she *arose a mother in Israel*, that no portion of the common narrative can be compared with it: she calls on kings and princes to hear; she says that *the high* ways *were unoccupied*, and the traveller *walked through byways;* she describes the deserted villages by reason of the desolating wars, and the infidelity which reigned in this state of national calamity; she enumerates the tribes who acted bravely in the war with Sisera, who came down with force and might against him; and rising into poetical splendour, she says, *They fought from heaven; the stars in their courses fought Sisera. The river of Kishon swept them away, that ancient river, the river Kishon: O my soul, thou hast trodden down strength.*

The denunciations against those who absented themselves that day were deep and bitter, but full of

patriotick justice. "*Curse ye Meroz, said the angel of the Lord, curse ye bitterly the inhabitants thereof; because they came not to the help of the Lord,—to the help of the Lord against the mighty.*"

David's lamentation over Saul and Jonathan was a beautiful elegy, made to commemorate their virtues;—it was taught to the daughters of Judah, who were the musicians and the prophetesses of the day. The great psalmist knew that such an epitaph would last longer and be better known to mankind in future times, thus written on the memories of successive generations, than if he had reared pyramids to their fame, and covered them with a thousand inscriptions.

The book of Job, as it is called, is one of the finest dramas ever written, whoever might have been the author. The plot is more natural than most of those of the Greek tragedians, and is full of better morals and a higher philosophy, dictated by a more elevated muse. The Idumean bard was initiated into all the wisdom of the most enlightened nations; he was a naturalist and an astronomer, as well as a poet, and added to his knowledge of science and literature, and to the most admirable genius for poetry, an acquaintance with the true God, whose government is as benevolent as just. The answers of the hero of the drama are as pious as wise; and, with the familiarity of primitive times, contain the richness of Eastern magnificence.

The profound scholars in Hebrew literature inform us, that there is as much difference in the language in which this work is written, and that of the common Jewish chronicles, as there is between that of the old English historians and ballad makers, and the divine sweetness and lofty composure of the verse of *Paradise Lost.* If this be not true to the full extent of the assertion, it is so in a considerable measure; and this truth is, in no slight degree, visible even in the translation which is now in common use. Several Oriental scholars, not entirely satisfied with the present translation, have given us others, abounding in new beauties, and developing new points; with notes, containing some delicious morsels of criticism.

The prophets, whose works have come down to us, lived in the most troublesome times of Israel; some few of them before, but most of them about the time that the Jews were in difficulty, after the dismemberment of the tribes, and while the consequent civil wars were desolating the country. The slaughtered hosts of their own countrymen, gave to the thinking, feeling, and pious part of the community, a deep tone of grief and anguish; and it is every where found in their writings. Isaiah added to his denunciations and forebodings, the mightiest promises that were ever given to man. The whole is clothed in epick dignity, and every word comes to us as from one speaking the oracles of God. He is sometimes mystical, from the intensity of his feeling, and his numerous flights of imagination. He taught the heinousness of sin, the impudence of sinful man, the oppression and the covetousness of rulers, and the certainty of fast-coming evils to his country. His visions are full of the glory of inspiration; and his seraphims burn with a hallowed fire, surpassing those of other prophets.—He prophesies the coming of the Messiah and his peaceable kingdom, in words that breathe the airs of Heaven; the fate of Babylon is predicted with almost historical minuteness; the downfall of the great city is proclaimed; the mother of harlots is to sink; and the wretched remnant of his countrymen are to be restored. The whole of the book is terrifically beautiful, and awfully true, in sentiment as well as in prophecy.

Jeremiah is full of tenderness, of delicacy, and feverish distress for the people of his country. He lived in evil times, and his soul was alive to every thing of history or of prophecy. It is worthy the most profound attention, for its deep feeling and poetical elegance.

Daniel makes a most distinguished figure in Babylon, with Nebuchadnezzar, and with his grandson, Belshazzar, as he was finishing his wicked course. With Darius he was also a favourite—and made an indelible impression on all the inhabitants of Babylon. His whole soul was wrapped up in the fate of his people, and it gathered all his na

tive and acquired strength, to serve them with all the forecast of his hallowed calling. The rest of the prophets, as they have reached us, are probably only fragments of larger works; but as the scriptures are, they are invaluable, and we should read them day and night, for information and edification. The reader may rise from the Jewish scriptures, often indeed shocked by the wickedness of man, and with tears for the miseries of individuals and nations; but he sees a mighty and eternal mind presiding over all things, educing good from evil; a power that turns and overturns, until all things come right, and the iron rod of the oppressor is broken, and the meek and lowly are raised in strength, and received into favour. New lights are rushing in upon the human mind in this our day, as it regards this volume;—much of the dark has been illumined; much of the mysterious explained, and many apparent difficulties cleared up, by the great vigour with which the divines of our time have pursued Biblical criticism.

SKETCH OF AMERICAN HISTORY.

Among the extraordinary events recorded in modern history, the discovery of this Western Continent stands pre-eminent. To Christopher Columbus belongs this distinguished honour.—On Friday the 4th of August, 1492, he sailed from Palos, in Spain, with three small vessels, having ninety men, who were furnished with provision for one year. He, as Admiral, commanded the Santa Martha, the largest ship, Martin Alonzo Pinzon was captain of the second, and Vincent Yanez Pinzon, of the third. When about 200 leagues to the west of the Canaries, Columbus discovered the magnetick needle did not point exactly to the north, but varied to the west. This extraordinary phenomenon excited great alarm among his men; but Columbus, with wonderful sagacity and address, was enabled to allay their fears. On the night of the 11th of October, land was discovered, which proved to be an island, now called St. Salvador, one of the West Indies.—On the 12th, Columbus landed in the new world. The natives were filled with astonishment, considering the Spaniards to be superiour beings. On this voyage, he discovered several islands, among which was Cuba. This great navigator made three other voyages, in the last of which he discovered the continent at the mouth of the river Orinoco. The latter days of this great man were imbittered by the ingratitude of his king, and the persecutions of his enemies. He died, broken-hearted, at Valadolid, in Spain, on the 20th of May, 1506, in the 59th year of his age.

Two Venetians, John Cabot, and his son Sebastian, in the service of Henry VII. of England, were commissioned by this monarch to undertake an exploring voyage to the new world. On the 22d June, 1497, they discovered Newfoundland; from thence they coasted along the continent as far as the Floridas.

Among the first adventurers was Amerigo Vespucci, a Florentine, who in 1499 accompanied Ojeda, an enterprising and skilful navigator, on his voyage of discovery. On his return, Amerigo published an account of his voyage in Latin. This circulated rapidly, and was distributed throughout all Europe. Columbus had not then published any particulars of his adventures. Owing to this circumstance, and to some unaccountable caprice, this continent has ever since been unjustly called America, instead of Columbia. The history of the settlement of South America is nothing but a tissue of bold enterprise and of crime.

This discovery ruined Spain and Portugal, and the rapidity of their downfall was in proportion to the influx of wealth from the mines in their provinces. The most distinguished adventurers to South America were Cortes and Pizarro. Their exploits were those of reality, but in appearance those of fiction and romance. Juan Ponce d'Leon sailed in search of the fountain of immortal youth, but found a premature grave. True immortality is only found by pursuing the path of virtue and wisdom.

But we will leave South America, with all her wonders and all her crime, to proceed to North America, a land of glorious growth, in which

all the great doctrines of rational freedom have been developed. The history of South America remains to be written out; and perhaps it were better that a part of it should never be fully understood. What were once colonies of Spain are now nominal Republicks, and have set up a claim to be numbered with the republican family.

In 1578, Queen Elizabeth granted letters patent to Sir Humphrey Gilbert, giving him great power and immunities, in an exploring expedition. Among other privileges, he was authorized to take possession of all barbarous lands unoccupied by any christian people. He was an unfortunate navigator, yet a bold, persevering, and excellent man. He took possession of Newfoundland, one of the most dreary and inhospitable spots yet discovered, and that at a time when he had half a continent to choose from. In 1584, Sir Walter Raleigh laid a plan before Queen Elizabeth, for settling some portion of the territory claimed by England, on account of the discoveries of the Cabots; the Queen approved of his project, and Raleigh sent out two experienced navigators, who, on their return, gave a favourable account of the country. The next year he made farther efforts, with extensive means, to form a settlement on the southern part of what is now considered as the old United States, but disaster after disaster destroyed his plans, and baffled all his calculations. During this period, Raleigh was making the most strenuous exertions in colonizing America, and several bold navigators were his coadjutors in this good cause. Thomas Cavendish, who had circumnavigated the globe, was now sailing along the coast of South America. Sir Richard Grenville conducted an expedition to Virginia. He was a gallant commander, and fell, mortally wounded, in a fight with the Spaniards. Christopher Newport, George Drake, Henry May, George Weymouth, and others, were out upon expeditions to harass Spain, and to establish colonies, or to protect those already established.

Bartholomew Gosnold, in 1602, was the first who came directly across the ocean, instead of going to the West Indies. He touched the continent in North latitude 42, and taking plenty of cod-fish, named the place Cape Cod, or, as some say, from finding the cape in shape like the tail of that fish. There is a small island, not far from the cape, called Gosnold's Island, which bears marks of some civilization. In 1603, Richard Hakluyt followed Gosnold, and coasted from Penobscot to Massachusetts Bay.

The French now recovering from their civil war, sent out explorers all along the coast. The English had hitherto failed in every attempt to plant colonies on these shores. Many noble efforts were made, but all to no purpose. More than a century had elapsed since Cabot's discovery of the northern part of the continent; voyage after voyage had been performed by highly sagacious navigators; but many, inclined to the belief of predestination, would have said, it is evidently the will of heaven, that the wilderness shall never blossom as the rose, nor shall civilization spread in the new world; yet it was otherwise decreed.

In 1606, there was not a log hut in all North America, inhabited by a white man, notwithstanding all the exertions that had been made for colonizing the country. The spirit of the adventurers was, however, neither broken nor subdued; and hundreds who once thought lightly of the plan of sending forth colonists, now heartily approved of the measure. A greater diffusion of knowledge expanded the views of European politicians, and the commonalty began to think that men might live and flourish in other than European climes; but had the adventurers foreseen all they had to encounter, the wilds would have remained, for ages to come, the hunting grounds of the savages, and the streams would have rolled on unbroken by mill or dam to the ocean.

In 1607, a patent was given by King James to certain persons, and a hundred of them embarked for Virginia. They intended to land at Roanoke, but were driven by a storm to the northward of that place. On the 13th of May, they took possession of the spot in Virginia, now called Jamestown. They began in aristocracy, and of course went on in confusion. John Smith was the soul

of the whole, and without him, they would all have perished. His adventures have produced volumes, as wonderful as can be found in the region of romance. Smith explored the country, and was the first person who ever gave a map of it. At first, travellers, miners, and a few assistants, came to Virginia; the imagination of the patentees being diseased by the stories of gold and precious stones which they had no doubt could be found here. The next year they grew more rational, and brought Dutchmen and Poles to make glass and potashes. In 1609, a new charter was obtained, and fresh vigour given to the enterprise, but still more attention was paid to settling the offices, Governour, Lt. Governour, Admiral, Vice Admiral, and Members of Council, than to the great interests of planting a thriving colony. The whole was preserved by the friendship of Pocahontas, the daughter of King Powhatan, and the prudence and bravery of Captain John Smith. It seems to be a law of nature, that a colony, sent from any country, never feel at home, until they commence the cultivation of the soil: fifty years of traffick would not wed a people to a new situation so completely, as the planting and reaping of a few acres for a single year. There is a strange delight in seeing the products of industry springing from the bosom of our mother earth; her fruits and flowers are full of innocence, as well as of comfort and pleasure. Fifty or sixty houses were now built, several forts erected, and the Virginia colony appeared to be thriving in agriculture, manufactures, and fishing. This year Henry Hudson, an Englishman in the service of the Dutch, attempted to find a north-west passage to the East Indies, but his plan was frustrated by touching the eastern part of the continent. He then examined the coast to the Chesapeake. He also explored the river which now bears his name, but to what extent is not precisely known. The next year the Dutch sent a ship to open a trade at Manhattan, at which place a trading party was left. In 1613, Capt. Argall arrived from England, and compelled them to acknowledge allegiance to Great Britain. The next year, a new Governour came out from Amsterdam, with a reinforcement, but the colony at first refused to acknowledge his authority. They afterwards submitted to him. A fort was built where Albany now stands, called Fort Orange. The colony prospered, and carried on the fur trade to a considerable extent. They wisely kept peace with the neighbouring Indians, and of course received all the advantage of their traffick. The whole country was one vast hunting ground, from Manhattan to the North Pole, and west to the Pacifick Ocean. Half a world was devoted to the animal creation, hunted by wild men who were in many respects but little superiour to the fowls of the air, and to the beasts that roamed the forests. New Amsterdam flourished under the protection of the Dutch, for half a century from this time, when it was taken by the English, and retained by them as a colony of the crown, until lost to England by the American Revolution, which commenced in 1775, one hundred and sixty-six years after the first settlement by the Dutch adventurers. The people in general were pleased with the prospect of change, and made spirited efforts to shake off British authority.

In 1613, John Rolf, an Englishman, married Pocahontas, the daughter of Powhatan. This connexion secured peace to Virginia for several years. She accompanied her husband, in 1616, to England, where she was received with great respect. The King and Queen paid her every attention. She died the next year as she was about returning to her native land She was only 22 years of age when she deceased, deeply lamented by those of her nation, and by every Englishman who was a well-wisher to the settlement in Virginia. History scarcely furnishes a character, which, in so few years of human life, was a greater benefactor of mankind than Pocahontas. Her descendants are still living in Virginia. Captain John Smith sent a memorial to the Queen in her behalf, when she was in England, fraught with high and deserved commendations, proving her to have been a most noble friend to the colony.

In 1619, the King of England made an attempt to collect money to establish a college for the Indians, but

like all attempts of this kind, the plan proved almost abortive. The nature of savage life was, and is, and ever will be, at war with civilization. The wise may philosophize, and the good may exert themselves, but no permanent good can ever be effected by attempting their civilization. The very elements of their nature are at variance with the course of science, letters, and the arts.

This year the colony of Virginia was visited by a most distressing pestilence, which essentially retarded its growth. In fact they passed ten years in distresses, doubts, and painful forebodings; nor were their miseries at an end at the conclusion of this period.

In 1622, on the 22d of March, 347 of the colonists were massacred by the Indians. They fell upon friends and foes; the carnage was horrible, even in the higher classes of the colonists. Famine soon followed, and destruction seems to have driven her plough-share through all Virginia. Nine out of ten of the planters were destroyed. The parent country happily sent them succours, or they would have perished in a mass. If one takes a view of the means which had been used, and the effect that had been produced, he would say, that no history of colonization ever presented such a series of calamities, of famine, pestilence, and the sword.

The year 1620 is another memorable epoch in the history of North America. The religious disputes in the reigns of Edward, Mary, and Elizabeth, and which still continued after the accession of James, were the causes of this era.

The Puritans were among the most moral and best informed of the commonalty of England. They possessed a good share of English spirit, or as some might call it—obstinacy. The fires lighted at Smithfield were never to be extinguished in the religious world. Men had begun to think for themselves, even in religious matters. The Catholick power had long before been put down, in the reign of Henry VIII., and never arose, only momentarily, again. Calvin had assailed the church of Rome, and by sturdy blows had crumbled into pieces, in Germany, the massy buckler of Saint Peter. Luther had also come down in the plenitude of his strength, and made tremendous inroads upon the strong hold of the Catholick church. A new era was about dawning upon the world. The Puritans took a decided stand in England, and opposed all the corruptions of the church.

The year 1620 was rendered memorable by the landing of the pilgrims at Plymouth. Some of the English Puritans had, under the Rev. John Robinson, left England, and took up their residence in Holland, in 1607. In 1608, they resided at Amsterdam, and in 1609, they removed to Leyden. Beginning to fear that the strict discipline which they had prescribed to themselves, would become relaxed in this place, and finding that the Lord's day was not so strictly observed as they considered proper, they turned their attention to the new world, with the hope of there finding an asylum. After slight preparations for such a mighty undertaking, the adventurers left Leyden for England in July, and sailed on the 5th of August from Southampton for America; one of the vessels in which they embarked, however, proving leaky, they were twice obliged to put back, and were at length compelled to proceed on their voyage in the Mayflower alone, on the 6th of September. On the 9th of November, they discovered land at Cape Cod. Perceiving that they had by design or chance been carried too far north, they directed their course to the south to find the mouth of the Hudson; but the navigator, from fear or duplicity, pretended that he could not get south at this season of the year without great difficulty. After some discussion among the adventurers, it was agreed to land as soon as possible. On the 11th of November, a plan of government was fixed upon, and signed by forty-one of their number. The whole party of freemen amounted to 101 persons. Mr. John Carver was made governour for one year. Here commenced a republican form of government, which has lasted for more than two centuries. The 11th of December (the 22d new style) has been considered the anniversary of the landing of the pilgrims. They endured every privation, and this they sustained by a high religious feeling. They felt that they could worship

God after their own manner, having no mitre to bow to, nor a synod to answer; but they had made too many struggles for human nature to bear, and a third part of them were in their graves before the vernal sun had warmed the soil of which they had taken possession.

In 1628, a settlement was made at Salem under John Endicot. The adventurers suffered all the horrours of sickness and famine.

The next colony, and the best directed of all that had been attempted, was the one that settled in Massachusetts Bay in 1630. They had a fleet of 14 vessels, and brought 840 passengers of various occupations, agriculturists, and mechanicks. They had arranged their plan of civil government at home, but not exactly their religious one. This was done on the 30th of July, at Charlestown, where they established a church. Governour Winthrop, the leader, was a man of great learning and decision of character. They set out on a broad principle of constitutional rights, and have ever since maintained them. The first general court of the Massachusetts colony was held at Boston, on the 10th of October of this year. Isaac Johnson, one of the best men in the colony, died soon after he had made his location in Boston. He was a pious, liberal man, of good manners and ample estate; he had married Lady Arabella, daughter of the Earl of Lincoln, who died soon after she landed at Salem. She has ever since been a theme of praise among the historians of Massachusetts, for she was high-born, pious, rich, and withal beautiful. She married Mr. Johnson from a love of holy men, and a desire to see a church built up in the new world. The ways of Providence are inscrutable.—"She who had titles, wealth, and fame, sleeps without a stone or name," in an undistinguished grave. Saints wear not their crowns on earth.

The Indians in 1636 began to manifest a hostility towards the whites: the next year a victory, almost exterminating, was obtained over the Pequods. The first impressions are strong, and this awful slaughter of the Indians struck them nerveless for a long time. They believed that the Great Spirit had deserted them or that the Englishman's God was the strongest.

The first settlement in Maryland was commenced in 1633. For this enterprise the world is indebted to the first and second Lords Baltimore. They laid the foundation of the province on the broad basis of security to property and freedom in religion. The emigrants, on their arrival, proceeded honourably, peaceably, and it may be said prosperously.

In 1635, Connecticut was first settled by John Winthrop, son of the governour of Massachusetts. He brought out a commission from Lords Say and Seal, Brook, and others, to begin a settlement at Connecticut, of which he was appointed the governour. Winthrop had many of the virtues of his father, and the plantation flourished. This year Massachusetts received a great influx of emigrants, some of them of distinction, among whom was young Sir Henry Vane, who was afterwards chosen governour, and kept a great parade of office, having halberdiers as a guard when he went to church.

In 1637 appeared Ann Hutchinson, a woman of talents, but an enthusiast, who gave lectures upon divinity. She set the whole country in a flame. A Synod was called, and eighty-two errours propagated by this gifted woman were condemned: she was excommunicated, and was obliged, after the death of her husband, to leave New England. She, with her family, 16 in number, were all, except one, massacred by the Indians. This, some considered as a judgement upon her. It would not however answer to test the doctrines of the Apostles by such judgements.

This year a publick school at Newtown was made a college, and called Cambridge, in honour of the college of that name in England.

A settlement was commenced in New Hampshire by John Wheelwright, and others.

In 1641 the General Court of Massachusetts established a hundred laws, called the body of liberties. They were drafted by Nathaniel Ward, a clergyman of Ipswich, in the commonwealth, who had been a lawyer. These laws contained all the fundamental principles, found in our constitutions and civil code throughout

the United States. Ward was a firm friend to the freedom of his country, but he had a well-balanced mind, and constituted his *Body* of laws so as to meet the future wants of the people. In 1643, a union of the New England colonies was formed, to advise and assist each other in case of danger from any quarter; and there were sufficient causes for this movement, which was then done in good faith, and has been kept in sincerity up to the present time. New England is, and ever has been, virtually one family. They are, in general, moved by the same impulses, and follow similar pursuits.

In 1636, Rhode Island was first settled by Roger Williams, a clergyman, at a place which he then called Providence, and which still bears the same name. He was a man of a bold independent mind, but his doctrines were not acceptable to a great majority of the people of Massachusetts; he therefore left them to take up his residence among the savages of the wilderness. He formed treaties with the Indians, became a great favourite with them, and made himself acquainted with their language. He went to England, obtained a charter, and filled the offices which he held in his small province with great judgement, though his life was marked with some eccentricities. A large and wealthy city now flourishes where he set up his log cabin, and trusted to Providence.

In 1646, the legislature of Massachusetts passed the first act for carrying the gospel among the Indians, and John Elliot of Roxbury, at the recommendation of the clergymen of the province, was set to work to translate the Bible into the Indian language. This Herculean labour was performed by him with incredible despatch, and was printed at the press in Cambridge, with many pious tracts. This gave the good man the title of "The Apostle to the Indians," which he has ever since retained. It is not for us, of the present day, to decide the amount of good effected by this great labour, in a religious point of view; but it certainly was a great political service, as many of the Indians were neutralized by it. Savages are in general grateful for services rendered; and when they saw their good religious father was solely enlisted in making them Christians, if they did not comprehend what this was, they perceived that such was his zeal and affection, that it was something he thought essential to them and their children.

In 1649, a revolution took place in England, and Charles I. was beheaded. The house of Lords was put down, and what was called a commonwealth, established under Cromwell. This, which in the end did much good in England, was not without its beneficial effects in some parts of the new world; not that New England ever was in favour of Oliver Cromwell, but they hated all arbitrary power. Charles II, still retained his authority in Virginia, but did not venture to do any thing to control New England. Under Cromwell, in 1651, the parliament passed the famous navigation act, from which sprung the American revolution, more than a century afterwards, when the colonies had increased, and that act had become oppressive in the extreme. This was not, in all probability, contemplated at the passage of it.

In 1660, Charles II. came back to London, not the least improved by his misfortunes. One of his first acts was offensive to the American colonies, for it perpetuated the navigation act with additional severities It enacted that "no sugar, indigo ginger, tobacco, cotton, fustick, dying-woods, of the growth of English territories in America, Asia, or Africa, shall be transported thence to any other countries than those belonging to the Crown of England, under the penalty of forfeiture; and all vessels sailing to the plantations were to give bond to bring said commodities to England." This was considered oppression by all, and outrageous by some of them, and they never did fully comply with it. Another affair concurred to excite the colonies; this was the rage shown by Charles II., because the provinces would not give up the judges of King Charles I., Whally and Goffe, who had fled for protection to New England. The royal messengers found it impossible to get these fugitives into their power. The governours, clergy, and all the people, protected them, and they had to return without effecting the great object of their mission.

These distinguished men lived in New Haven, and afterwards in Hadley, in perfect retirement and safety for many years. The hearts of freemen are the best hiding-places for the enemies of tyrants. The emissaries were often almost within an arm's length of the objects of their pursuit, but no royal smile or bounty ever made a partizan amongst the provincials.

In 1662, Sir Henry Vane, who had figured as governour of Massachusetts, and was one of the Cromwellian party, was executed for high treason. He was an aristocratick puritan, and with the pretended simplicity and austerity of a saint, had the ambition of a Cæsar.

In 1663, the province of South Carolina was formed, and liberty of conscience was allowed by the charter.

In 1664, Nova Cassova, or New Jersey, was settled under the auspices of Lord Berkeley and others.

In 1673, New York and New Jersey were taken by the Dutch from the English, which they kept until the next year, when, by a treaty between England and the States General of Holland, they were restored to the English.

In 1675, a war broke out between Philip, king of the Wampanoags, and New England. Philip was a savage possessing the highest powers of mind. A few years before this, he had renewed the treaty made by his father with the colonists, and in a time of profound peace, took occasion, as is conjectured by some historians, to visit the tribes of Indians from the St. Lawrence to the Ohio. This conjecture is founded upon the fact, that many of them, in after times, had traditions of King Philip's visit. It is also rendered probable, from the length of time he was absent, and the well known rapidity of the movements of the sons of the forest. Massacres occurred in several places, which Philip disavowed as proceeding through his orders. These were so many signals for the movement of distant tribes to the east and west of Mount Hope, the royal residence. The war was now raging fiercely on Connecticut river, and various other places, and the Indians were frequently victorious. The whole of New England became sadly alarmed, and were aroused to save themselves from annihilation. In December, the Massachusetts forces being joined by those of Plymouth and those of Connecticut, determined on a desperate resistance. This was on the 18th of December. The army was fortified in a swamp at Petaquamset. The colonists commenced their march at day break on the 19th, and reached the edge of the swamp about noon. The Indians were soon traced to their strong hold, and the troops rushed on to effect an entrance; this was done, but the Indians made such deadly fires upon them, and killed so many officers and men, that they were obliged to retreat. Enraged at their loss, and fighting for existence, they continued to assail the strong hold, and became masters of it, as the sun was going down. The victors seized one of the torches of the savages, and the fort and numerous wigwams within it, were soon in a blaze. A thousand Indians are supposed to have perished in the flames, or to have fallen in the battle. Of the allied troops, nearly a hundred were killed or died of their wounds, and a hundred and thirty-five wounded. This was a grievous blow to the Indians, but Philip was still as fierce and active as ever. He commenced the campaign in a little more than a month after this disaster, and made devastation and blood follow his footsteps. Philip was greatly reinforced, and the war whoop was heard in almost every village on the frontier. The Narragansets plundered Warwick of horses, cattle, and sheep.

On the 10th of February, 1676, fifteen hundred Indians fell upon Lancaster, and burned a considerable part of the town, and killed or made prisoners some forty or fifty of the inhabitants. Medfield was next surprised, and a part of the town burnt. Weymouth soon after suffered. On the 12th of March, they laid the town of Groton in ashes.

On the 17th, Warwick was entirely destroyed. Marlborough, Rehoboth, Providence, and many other towns, greatly suffered. Capt. Wadsworth, who was sent from Boston to bring help to the towns now in tribulation and danger, was surrounded by the enemy, and his whole forces totally

destroyed. On Connecticut river some advantages were gained by the English. In the action called the Fall-fight, the enemy lost several hundred of all ages and sexes. During the ensuing summer months, the colonies were in arms; hardly enough were left at home to put the seed into the ground, or reap the harvest. Philip, as well as the colonists, began to find the war press heavily. He returned to the neighbourhood of Mount Hope. He had grown desperate, and came with a few followers, to light up his warlike mind, at beholding the country of his ancestors. One of his party betrayed him, and showed his haunts to the great Indian-killer, Colonel Church. Philip was in a swamp; Church took possession of all the avenues to it; and as Philip fled, an Indian and a white man were in his path; the gun of the latter missed fire, but the Indian shot him. The whole country rang with shouts of joy; the master spirit of the great and extended league was gone, and peace of course must inevitably ensue. The Indians now sued for it. Philip expired in the cause of patriotism. He and his enemy were on the plank together; one must sink, that the other might swim. It was his fate to perish, and with him the hopes of the red men.—Pillage, plunder, and conflagration, ceased when he fell; but the wounds he had given were deep, and required a long time to be healed.

While New England was suffering by Indian wars, Virginia was torn with intestine commotions. Nathaniel Bacon, a daring fellow, led on the insurgents with considerable success. Jamestown was burnt. Many of the evils of civil war ensued, but the death of Bacon put an end to them. These calamities arose from the bad management of the men in power.

In 1680, a comet made its appearance, and alarmed many in England and America; but at this time it might rather have been called any thing, than a forerunner of pestilence and war, for now peace was established. If it had appeared a few years before, it then might have been so considered.

In 1682, the settlement of Pennsylvania was commenced by William Penn, a learned and judicious Quaker, born in high life, the son of a British Admiral, and heir to a large fortune. He began wisely, proceeded judiciously, and founded a province on the broad basis of sound policy. In less than sixty years from the foundation, the state of Pennsylvania was the second in respect to trade, judging by the custom-house books, of all the colonies in North America. He laid out, and began the building of the city of Philadelphia, and lived to see its extraordinary prosperity, far exceeding in its growth any other city or town of the British Provinces.

James the Second, in 1685, succeeded his brother Charles, and discovered all the folly and obstinacy of his predecessor, without any of the graces of his manner, or the carelessness and ease, which often proved an advantage to those under his sway. The short period of four years filled up the measure of his iniquity; the empire passed to his daughter and his son-in-law. William, Prince of Orange, had married Mary, the daughter of James, and they were called to the throne by the parliament of Great Britain, and the consent of the people. This was a contract between ruler and people, which enlarged all the doctrines of the Magna Charta, and broke down the oft repeated dogma among nations, of the divine rights of kings. This news arriving in Boston, produced a revolution. The colonial tyrant, who had strutted his hour, and shown his little brief authority, was seized and imprisoned, and a council of safety created. The former governour, Bradstreet, then nearly ninety years of age, was made president of the council. The other colonies soon hailed the change in the British government, and acknowledged William and Mary as their rightful sovereigns, and were ready to act their part for the dignity and glory of the British empire.

In 1690, commenced the first French war, which lasted, with fearful intermissions, until the year 1769, a period of almost eighty years. Count Frontenac made an incursion into the state of New York, and did great injury to Schenectady, destroying the buildings, and also most of the inhabitants. This incensed the

whole country; and New England prepared to avenge the insult, and chastise the assailants. They now began to feel that France, in their northern possessions, was to be a scourge of New England; and, "Canada must be ours," was henceforth their motto. The state of Massachusetts armed and equipped a force for the reduction of Canada. Sir William Phipps, blushing with his late honours, was designated the commander of the expedition; but, owing to the ten thousand delays incident to fitting out an armed force in a new government, he was unable to reach Canada until late in the autumn; the stormy season coming on, he made a failure of it, and his fleet returned home without any laurels.

New England was in a state of activity and enterprise. Manufactures were carried on far beyond what the British knew any thing about at this time. The cod fishery was full of life and energy; and, at the same time, the whale fishery commenced at Nantucket on a tolerably broad scale. The people of Cape Cod had followed this employment with success for several years before, but only on the immediate coast. The whalers of Nantucket now pushed farther south and north than had been done before, and they found their account in it. One great spirit of enterprise seemed kindled up along the sea coast, and to prevail in the interiour.

In 1691, New York was roused to a war against the Indians and French in Canada; in fact, a perpetual war seemed to be determined on, for none could foretel when these hostilities were to end. Major Schuyler collected a large party of Mohawks, passed over Lake Champlain, and carried fire and sword into the French settlement, showing them that they were not to be always assailants.

In 1692, Sir William Phipps, who still retained his popularity, notwithstanding his want of success in the Canada expedition, came out from England with a new charter for Massachusetts, which, though not precisely acceptable to those friendly to the old charter, was even by them considered a tolerably good one. He was appointed governour by that instrument, and began the duties of his office with the good will of a majority of the people. He was a man of strong powers of mind, had all that compound spirit of democracy and aristocracy which is often found in those who suddenly rise in the world; who wish to live on terms with the great and to secure the humble, and are obliged many times to play a double game. When the learned Mathers wished him to destroy all of a familiar spirit, he gave them every assistance. A court was appointed by commission, to try all witches; but he found at length that he had been duped, and joined to stop the current of delusion. This infatuation in the end was beneficial, for it set men to thinking, and made them less confiding in the opinion of ecclesiastical leaders. Phipps's administration was short; he was never fitted for a statesman or a general, but was a good enterprising mechanick. The colony was in great jeopardy from the power of Louis XIV.; he formed gigantick plans which unquestionably were to embrace the conquest of all North America, from the highest northern latitude to the mouth of the Missisippi. Concealing his intentions as well as he could, he set about carrying them into effect. He established a company for the West Indies to exist for fifty years.—This was to be one of his instruments to bring about his intentions.

In 1702, William the Third died (Queen Mary having deceased before him,) and Anne, Princess of Denmark, came to the throne of England. Her disposition was good; when she erred it was from bad advisers, not from wayward intentions. The congratulations on her elevation were not made with great spirit, notwithstanding the people had heard a good report of her talents and virtues. But it was a gloomy season; the dread of France was upon every mind, and a pestilence was raging through many of the principal cities and towns. In New York a great and sweeping sickness prevailed; it was probably the yellow fever: most of those seized with it died, as there was not much medical skill in the treatment of it at that day. In Boston, at the same time, the small pox was raging, to which many fell victims. A knowledge of inoculation had

not then been brought from the Levant; and modern experience has since discovered that the disease was improperly treated by the physicians of that age.

The fears entertained of the French now began to be realized. In 1704, a body of French and Indians made an attack upon Deerfield, in Massachusetts; after massacreing the helpless inhabitants, and burning the town, they set off with such prisoners as were able to march; those who fainted with fatigue, were relieved by the tomahawk. These captives were, a year or two afterwards, redeemed by their friends or by the legislature. In 1708, another body of Indians made an attack upon Haverhill, situated on the left bank of the Merrimack, within thirty miles of Boston. The clergyman, Mr. Rolfe, was killed by a ball passing through the door, which was barred; which may now be seen, being a double one, without pannels. His two infant daughters were preserved by the nurse, who fled with them to the cellar as soon as she heard the alarm, and placed the children under two large washing tubs, on the upturned bottoms of which, as tradition says, she set two pans of milk, from which the Indians drank; but the children, silenced by fear, were not discovered.

From 1708 to 1713, many abortive attempts were made upon Canada, and numerous Indian conspiracies were formed, but nothing to weaken either power happened until the treaty of Utrecht. This treaty gave the colonies a breathing spell, and they began to explore and survey the wilds beyond them; but tranquillity was of short duration. A powerful and warlike tribe, in 1715, threatened South Carolina with entire destruction. Vigorous efforts were made to repel them, by the governour, who was a man of energy. He made a levy *en masse*, of faithful slaves and all The blacks have a strong antipathy to Indians; and, of course, made good soldiers in such a war. The Yamasses made many desperate attacks, but were in the end repulsed by Governour Craven, and driven into Florida. The people of South Carolina suffered greatly in this war, nearly a third part of the fighting men being slain. During this time, Pennsylvania was free from Indian warfare. If there was no chance in this, does it not speak volumes in favour of William Penn?

The pirates who had succeeded the bucaniers, were now troublesome on the coast of North America: spirited measures were taken by the governours of the several states, and sometimes with success, to destroy them. Bellamy, a pirate, was wrecked with his whole fleet, and many carcasses were thrown on the shores of Cape Cod. A few of his men saved themselves only to perish on the gallows in Boston. Bellamy had been for some time a terrour to all the mariners of New England.

It is a little remarkable, that the two articles, now of the most general consumption in the United States, potatoes and tea, were not brought into the country until about the close of the first century from the landing of the forefathers of New England. A poem, dated at Newton, near Boston, April, 1717, mentions the fact, that China ware and other products (unquestionably tea) were brought into Boston just before. Dr. Boylston allowed it to be drank sparingly in 1721, when he inoculated several hundred patients for the small-pox.

Cotton Mather, who had filled a great space in the literary, religious, and political world, died in the year 1728. His father, Increase Mather, President of Harvard College, died not long before him. These men were learned, bigoted, and influential; and were also useful, though at times injurious, to the age in which they lived. They diffused knowledge, while they scattered errour; they gave sound advice, while they insisted on the observance of useless dogmas. The good they did, lives after them, and the evils they were guilty of, should be "interred with their bones," so far as our feelings extend; but history should write out her records fairly. The learned men who came from England, when the rage of emigration was at the highest, were now nearly extinct; a race which, for learning, sanctity, perseverance, and energy, was never surpassed in the annals of man. They had their errours, but these were, by Providence, made subservient to the good of the whole. Education had been attended to in the bringing up

of their children of the second generation, but none of them surpassed their fathers. Among those who first arrived in this country, were many fine Oriental scholars, whose learning served only to amuse themselves, or to raise the wonder of their flock at their acquirements. Hudibras, in derision, said of their emigrating to this wilderness, that

> "Hebrew roots are always found
> To flourish best on barren ground,"

not applying this, as it has usually been, to the intellects of the men who love Hebrew, but to the country they had chose for a habitation. They were men fitted for the times, and filled up the measure of their destiny: founders of an empire, they saw in prospect its glories, and rejoiced that they had lived at such a period.

On the 22d of February, 1732, George Washington was born in Westmoreland, Virginia. At the time of his birth, there were twelve colonies in America, more or less dependant on England for rulers and laws, all claiming privileges and immunities by charter. They were scattered over an immense territory, just beginning to thrive amidst difficulties and dangers. The whole amount of the population of these provinces was not more than eight hundred thousand, and these not intimately acquainted with each other. The northern and eastern population were thriving upon their agriculture and their commerce, yet were cramped in their manufactures by the severe restrictions of the navigation act. The staple article of the south was then tobacco, and being mostly an article of cultivation rather than of manufacture, excited no jealousy of the northern country. At this time the sagacious politician might have foreseen many things which have since transpired. In the first place, the country was sufficiently extensive for the population to increase a hundred fold. The seeds of intelligence were well sown in the community, and the love of independence had sprung up—"and like the chamomile," the more this spirit is trodden on, the more it grows. The doctrines of perpetual relations of colonies to the mother country, were beginning to be questioned, and by some critically analyzed. The English were proud and obstinate; and their descendants had a good share of both of these ingredients in their composition. As the former assumed the slightest air of importance, the latter thought it to be a duty to check all ambitious views. Irritations began on nominal points, extended to essentials, and by slow degrees alienated the affections of the colonies, and increased the consequential air of the mother country. From this period till 1775, every day was paving the way for the independence of the American colonies, and in process of time it became indispensable. The next steps taken on either side will discover this; and every event should be considered as leading with a fated directness to that measure. The soil was held by the yeomanry in fee simple, and every one who cultivated an acre was lord of his manor. This is the foundation of individual independence. The laws of property affect nations more than the laws that govern personal actions.

In the forty-three years which passed from the time of Washington's birth to his taking command of the American army, the people had multiplied to nearly 3,000,000, a sturdy race of hardy men, who had sound minds, and those well imbued with the great principles of freemen. Washington was well acquainted with the feelings, habits, and powers of the people; he knew also the power and disposition of England; thus prepared, he drew his sword for the perilous conflict, and fought it out like a man. He was surrounded by those who entertained similar sentiments, and who wanted nothing of corporeal or moral courage.

Georgia was settled by General Oglethorpe, January, 1733. He called a convention of the Indian Chiefs, and made a treaty of friendship with them. The Indians at that time were numerous. The Cherokees had more than six thousand fighting men, the Choctaws five thousand, the Upper Creeks two thousand five hundred, the Chickasaws seven hundred. They were warlike nations, and lived more compactly than the northern tribes. It was owing to the forbearance of these lords of the soil, that Oglethorpe and his little body of 116 persons got foothold in

the soil. There has not as yet been any full and satisfactory history of Georgia.

In 1735 the Cynanche Maligna made its appearance. It broke out in May, at Kingston, New Hampshire, and raged in that town during the summer. It is said that it was first taken by a person who had been skinning a hog that died of an inflammation in the throat. Of the first forty seized, all died. It continued with great severity the ensuing winter, and through the next summer; more than a thousand died in New Hampshire with this scourge of God; 900 of these were under ten years of age. The disease became milder as it travelled south. In Boston 4000 had it, of which number not over 120 died. A fourth part of all the inhabitants had the disease; it spread all over the colonies. Many years have elapsed since a case of the "throat distemper" has occurred.

1741—There were frequent fires in the city of New York—the negroes were discovered to be incendiaries; thirty were burnt, eighteen were hanged, and many were sent off to Georgia and other places. This year Dr. Franklin began a magazine: the work appeared on the 1st of January, and was the earliest of the kind published in the colonies, and was respectable for its literary character.

1745—The colonies were in a flourishing state. The shipping of New England alone consisted of more than 1000 sail, exclusive of fishing craft, which were numerous. The other colonies were in great prosperity. From the custom-houses it was ascertained that Boston was then first in commerce, Philadelphia second, New York third, Charleston fourth, Newport fifth, and Perth Amboy sixth. This year Louisburgh was taken by the New-England troops, assisted by a squadron under Admiral Warren. This was a heroick exploit.

1750—Governour Clinton of New-York made a treaty with the Indians of the Six Nations, at Albany.

In 1752 the new style was introduced into the colonies. From this time, the year, instead of beginning on the 25th of March, now commenced on the 1st of January. The new style began on the 3d of September, now called the 14th. Pope Gregory XIII. had corrected the calendar 170 years before, but the protestants were slow in adopting a demonstrable truth, as it came from the pope of Rome. A tremendous tornado was felt at Charlestown about this period, and some were bigoted enough to believe that it was for changing the time according to the calculations of the pope.

1755—This year Braddock marched from Virginia to take Fort du Quesne. George Washington of Virginia, who had resigned his command of a regiment because he was superseded in rank, was invited to act as aid to Gen. Braddock, and accepted the invitation. The army moved on the 10th of June, and reached the Monongahela on the 8th of July; the fight was on the 9th The English were defeated by the French and Indians with a very small force. The place where they fought was an open wood, with high, thick grass; and the assailants firing on the solid columns of Braddock's army, were almost entirely concealed. The Virginia militia behaved well, and preserved a remnant of the army by their coolness and valour. Braddock was mortally wounded, and brought off the field on a litter, but died the next day in the arms of Washington, in Colonel Dunbar's camp. Of eighty-five officers, sixty-four were killed or wounded.

September 8th, 1755, General Johnson fought Baron Dieskau near Lake George, and defeated him. Col. Williams was slain, and also the famous Indian warrior Hendrick. Baron Dieskau was mortally wounded. This success seemed to rouse the spirit of the colonies; for until this battle, for many years past, the French and Indians had been victorious.

On the 19th of November, 1755, there was a severe shock of an earthquake felt in North America. It demolished several old houses, threw down several chimneys, and rudely shook the steeples of many churches. In Massachusetts and Connecticut, it was more terrible than in other places.

1757—Montcalm took Fort William Henry, at the southern end of Lake George. The garrison, commanded by Colonel Munro, made a desperate resistance, and did not

capitulate until every shot was fired. The garrison was to be allowed the honours of war, and protection against the Indians until within a short distance of Fort Edward; this was disregarded, and a horrible massacre ensued, which has left a stain on the otherwise spotless fame of the great French general.

1758—General Abercrombie commanded on Lake George. July 5, he sailed down the lake on a most beautiful day, with nearly sixteen thousand troops, English and provincials, on board of 1025 whale boats and batteaux, with a fine train of artillery, to attack the French at Ticonderoga. The fight was miserably managed. Lord Howe, a gallant officer, was killed, and 2000 of the troops, without doing the French much injury, they being so well protected by their works. Lord Howe was a great favourite with the Provincials, and their affection for him was carried so far, that Massachusetts erected a monument to his memory in Westminster Abbey. The Rangers, a famous border corps, under Rogers, Stark, and others of distinction, were in this battle, and did all that was effected that day. This year died the Rev. Jonathan Edwards, in the 55th year of his age. He is considered by all the metaphysicians of the present day, to have possessed as acute a mind as Aristotle. Sir James McIntosh, in his great work on Ethicks, has paid him a deserved compliment.

1759—General Amherst succeeded Abercrombie. Amherst brought his forces against Ticonderoga, and Wolfe against Quebec; both armies were successful. Wolfe fell in the moment of victory. The French were commanded by Montcalm, who was mortally wounded. The peace of 1763 put an end to the French power in the North, and hastened the settlement of the frontier.

1761—James Otis was called on by the merchants of Boston and Salem, to argue the question of the constitutionality of the Writs of Assistance, which the custom-house officers of Boston prayed the supreme court to grant, giving them power to enter all places and search for goods, suspected to have been smuggled into the country. His arguments set men to thinking upon the nature of their rights, and was more highly applauded than any speech ever delivered in the country. Some parts of this able argument have been preserved by John Adams, who was present at the hearing.

1764—Several anonymous writers made their appearance in different parts of the country, in defence of the rights of the colonies. James Otis published a work, under his own name, entitled, "The rights of the British Colonies asserted and proved."

1765—The Stamp Act, the first in the series of oppression that roused the colonies to arms, was passed this year. The passage of it was most spiritedly opposed by men of talents and liberal feelings, in the Houses of Commons and of Lords, but to no avail. The colonies took fire, and the act was every where resisted. The distributers of stamps were hung in effigy all along the sea-coast. Out of these discontents grew preparations for a national union, which was the seed of our national independence. The stamp act never went into effect; the business required to be done with stamps, being effected by some other method. The ministers of the law dared not proceed, the voice of the people was so terrifick. This year, John Adams published a "Dissertation on the Canon and Feudal Law," which was done for the purpose of aiding the liberties of the colonies. It bears marks of a strong mind, devoted to the cause of the rights of man, and though superseded by deeper research since, still it may be read with profit now. This year, Doctor Franklin was examined before the House of Commons, relative to the repeal of the stamp act. His answers, and whole conduct, on this occasion, is the brightest gem in the diadem of his fame. Camden, in the House of Lords, reasoned with great force in favour of the colonies, and William Pitt, afterwards Earl of Chatham, in the House of Commons. The presses in America were now teeming with patriotick addresses, and the minds of the colonists kept up to fever heat.

In 1768, associations were formed in different states, the members pledging themselves not to import articles of consumption from Eng-

land. This year, the first British troops arrived in Boston, and were viewed with a jealous eye. The town authorities were required to quarter these troops; this was peremptorily refused, nor would the council of the commonwealth do any thing for them. The first regiment was hardly provided for by the government, when more arrived, and increased the disgust of the inhabitants towards the British ministry.

On the 5th of March, 1770, was perpetrated, what has ever since been denominated in American history, the Boston massacre. The soldiers, while under arms, in the open street, near the custom-house of that town, were insulted by the populace, pelted with snow balls and stones, and dared to fire. One of the soldiers fired at a man who had thrown some missile at him, and six others fired in a few seconds afterwards. Three of the inhabitants were instantly killed, and five or six others were severely wounded, one of whom soon after died. The soldiers, with their captain, were committed to prison. The excitement was tremendous for some time. The trial of Captain Preston and his men, did not come on for many months. The men were first tried and defended, on the ground that they stood in self-defence, and that they only obeyed the law of nature, and this sanctioned by the order of their captain to fire. Six men were acquitted, and two found guilty of manslaughter, who were afterwards slightly punished. Preston's trial came on next, and it was satisfactorily proved that he gave no orders to fire, and he was acquitted. John Adams and Josiah Quincy were of counsel for the prisoners. They were both stanch Whigs, and as much incensed against the British government as any two men in the country, for sending an army among us; but they were sagacious enough to make a distinction between the acts of a government, and those of individuals. Their exertions in these trials gained them great credit for talents and moral courage; but the effect of this shedding of blood, was not lost upon the minds of the people. This event was commemorated by orations for many successive ears. In this year there was a change in the British ministry; Lord North came into power as premier, with the avowed intent of carrying into effect the measure of taxing the colonies, and bringing them to obedience by coercion. The conciliatory advice of Pitt and Camden was wholly disregarded, and all the knowledge and predictions of Pownell treated with contempt.

In 1772, the Gasper was burnt. The British made this a strong pretext for complaint; accordingly a commission arrived under the great seal of England, directed to Governour Wanton of Rhode Island, and the judges of several of the colonies, requiring them to examine into the affair, and report the facts to his majesty.

In 1773, the tea question was agitated in Boston. Other parts of the act imposing duties was repealed, but the duty on tea was continued, to show the power of the mother country. It was so managed that tea came cheaper to the colonies than to the mother country, as the duty of one shilling sterling was taken off all exported to America, and only three pence on the pound charged when they arrived. This was supposed by North and his coadjutors to be a most conciliatory measure; but they never took into consideration, that it was the principle, and not the amount, against which the colonies contended. Three ships laden with tea arrived at Boston; the masters of the vessels saw the opposition, and were willing to return home, without breaking bulk, but the consignees would not permit them to depart. At this juncture, a number of men, in the disguise of Indians, went on board the tea ships, took possession of them, and threw all their cargoes overboard. This was considered as the most gross act of rebellion that had been offered to the British ministry; and the question then was, who should yield? The tea merchants in England clamoured for an indemnity from the ministry. The ministry said that Massachusetts should pay for the loss. The colony denied all participation in the act, and considered it as a common loss, for which individuals alone were answerable The persons engaged in this transaction have never as yet been disc

vered. The King took alarm at this affair, and in his message to parliament, represented the act as subversive of the government; this encouraged the parliament to pass the famous Boston Port Bill, a measure which virtually struck the port of Boston out of the sea-board, as to trade and navigation. But this was not all; an act followed, by which every person, charged with treason, was to be sent to England for trial. The whole colonies saw that their liberties were to be annihilated at a blow. It was not one port alone, but in their opinion, all ports were shut up. They therefore, in opposition to the measure, made a common cause, and a spirit of determination, unknown before, pervaded all ranks in society. The question was no longer one of ordinary policy, but of political existence. Passive obedience and *non-resistance* could alone satisfy the British government. The amount of taxes became nothing in their eyes; it was alone the object to humble or conquer the restless disposition of the people.

On the 4th of September, 1774, delegates from eleven colonies formed themselves into a congress at Philadelphia, and Peyton Randolph was chosen speaker. Each colony had but one vote, however large its delegation. This congress sent loyal addresses to the King and the people of Great Britain, and an appeal to the inhabitants of other parts of British America. These addresses gave proof of the most exalted talents and good sense. In September, Governour Gage issued writs for the holding a general assembly at Salem, but afterwards countermanded his orders by proclamation: the members were however chosen, and they deemed it expedient to meet, notwithstanding the interdict. When they were assembled, they found no governour, but they resolved themselves into a provincial congress, and chose John Hancock president. Towards the close of this year the British government prohibited the importation of military stores from England to America. This act produced some commotion in several of the states, particularly in New Hampshire and Rhode Island. The most distinguished men in Virginia took alarm at the encroachments of arbitrary power and South Carolina was awakened by the address of Judge Drayton to the grand jury, which was replete with sound and liberal doctrines. Virginia was at this time vexed with a bloody Indian war, but had the good fortune to bring it to a close just before the revolutionary contest commenced. The Ohio Indians had made sad havock of the Virginians under Colonel Lewis.

The year 1775, will be an ever memorable epoch in American history. Chatham was still making every exertion to bring about a reconciliation between Great Britain and America, but Lord North had the confidence of the King, and the control of the parliament, and every conciliatory measure was negatived. New York petitioned parliament, and secured the great talent of Mr. Burke in presenting and supporting their petition; but all to no avail. The King was most pertinaciously supported by his ministers, and every word and deed were apparently full of threats and darkness to the colonies. The drama of the revolution was now about to open,—all things previously done were *but notes of preparation.*

On the evening of the 18th of April, Dr. Joseph Warren, then chairman of the committee of safety at Boston, received information that Governour Gage was about to send a detachment to Concord, 18 miles from Boston, for the purpose of taking possession of some military stores and provisions deposited there by the provincial congress. The chairman sent messengers in every direction to alarm the country. British sentinels and officers were scattered upon their rout, to prevent any intelligence preceding the detachment; but the messengers, by their diligence and skill, eluded them all. Eight hundred troops under Lt. Col. Smith and Major Pitcairn, embarked from Boston Common, and landing at Cambridge, took up a silent, expeditious march towards Concord. The troops reached Lexington between day and sunrise, on the morning of the 19th of April. Pitcairn led the van, and seeing a company of minute men who were then formed in order for exercise, or to act as they should receive orders, he, gal-

loping up to them, ordered them to disperse, calling them *rebels*, and other opprobrious epithets. They stood seemingly questioning his right to interfere with them on their own ground. The major then rode to within a rod or two of them, and fired his pistol, and waving his sword, gave the order *to fire*. This was obeyed by the British soldiers, and a discharge of musketry, accompanied with huzzas, instantly succeeded. Four provincials fell on the first fire, and four on the second, as the minute men were retreating. There were some random shots fired in return; but the attack was so sudden, that no reuglar opposition could be expected. This was the signal for the country to rise. Blood had been shed; not by accident, not in the heat of passion, but in a cool, deliberate, settled plan of coercion. All scruples then in the minds of the colonists gave way. Every one considered himself bound to assume a defensive attitude. The British reached Concord about ten o'clock in the morning, and took refreshments at the village, while a small body of the troops were spiking two twenty-four pounders, and throwing a few cannon balls into some of the wells, and destroying about sixty barrels of flour.

The militia of Concord retired over a bridge north of the village. Here an active skirmish took place, the British firing first as at Lexington. Smith finding the provincials gathering so fast, thought it prudent to make tracks (as his pursuers called his retreat) towards Boston. In this flight, for it could be called nothing else, the British troops were severely handed. All the militia of the neighbouring towns, on horseback, and on foot, pursued the fugitives. For the distance of 7 miles, from Concord to Lexington, they suffered sadly, but here they met Lord Percy, with a powerful regiment of 900 strong. The fresh troops marched in a hollow square, keeping the exhausted ones in their centre. The provincials pursued; and, from behind stone walls, barns, and fences, kept up a galling fire on the British. When they reached Bunker's-hill, most of the detachment rested there for the night, as a great portion of the soldiers were unable to go any farther. The Somerset man-of-war covered their position, and they were not assailed during the night. This was a dear day's work for the British; for according to their own account of the battle, they lost 65 killed, 180 wounded, and 28 made prisoners, making a total of 273. The loss of the provincials was, 50 killed, 24 wounded, 4 missing, total 78. This *excursion for amusement*, as Pitcairn had called it when it was projected, taught the British what to expect from exasperated yeomanry. This battle was truly the first scene, in the first act, of the revolutionary drama. It gave proof that others besides grenadiers could play a part in the tragedy of war. An account of this battle was sent to England, and soon reached, by express, every part of America. Twenty thousand armed men seemed to spring, as it were, from the ground as avengers of blood, and asserters of the rights of men. Col. Buttrick was commander of the day at Lexington and Concord, but in fact every man fought on his own account and risk. Warren was in the fight, and a curl of his wig was carried away by a musket ball.

The British were now closely shut up in Boston, not daring to look out of the limits of the town. Fresh troops soon after arrived under Howe, Clinton, and Burgoyne, which augmented their forces to nearly six thousand men.

The American army had been quartered at Cambridge nearly two months, and no blow had been struck to rid the country of the British troops, or to encourage the people; some uneasiness seemed to exhibit itself in the camp and abroad, that more energy was not shown; but the wise thought to conquer by *Fabian wisdom*, while others were for more decisive measures. The army at Cambridge was known to be large enough to demolish the British, if they could but get at them. In this state of feeling, it was deemed proper to make some demonstrations of courage, and to show intentions of acting *offensively* and *fearlessly*. Col. Prescott was sent with the fragments, or rather the skeletons of three regiments, on the night of the 16th of June, to occupy a station on Bunker's-hill. On viewing

the eminence, properly called Bunker's-hill, he found it not an elligible spot. Then looking along to the right, he saw that a spur of the same hill, now called Breed's-hill, was the most proper in every respect for a battle ground. Considering that they were within the limits of their orders, Prescott and Col. Gridley, the engineers, began a redoubt on the right of Breed's-hill. It was about 140 feet square, with two open passages for ingress and egress. On the left of the redoubt, running northeasterly, was a breastwork of sods, not much over four feet high, which, however, did not, as has been stated, reach Mystick river, not extending one quarter of the way to it. The line from this breastwork was made of two posts, and rail fences placed about four feet apart in parallel lines, and between them was newly mown grass, making quite as good a screen for the militia, as the redoubt for the breastwork. General Ward, concluding from the firing from the summit of Copp's-hill, in Boston, that the British would make a struggle to get possesion of the works, offered to relieve Prescott and his men, but they unanimously declined the offer, yet earnestly insisted on a reinforcement. These were reluctantly given, as the commander-in-chief thought that an attack on his camp was contemplated, as it was a better place for a general action than Bunker's-hill, and in such a case he would be but indifferently fortified. Early in the morning, from the battery on Copp's-hill, one of the men in or near the redoubt was killed and buried on the spot; although the roar of the cannon from this eminence was incessant, no further injury was done by their shots: and in aid of this battery, the Lively man-of-war was brought to bear, and in fact she began the cannonade at early dawn. Gage, wishing to drive the Provincials from the hill, sent Major General Howe and Brigadier General Pigot, with ten companies of grenadiers and ten of light infantry, and some artillery, to perform this service. These generals reconnoitering the American army, on their arrival at Morton's point, where the navy yard at Charlestown now stands, thought it best to wait for a reinforcement from Boston. Howe waited for them, from about noon until after three o'clock, before the battle was commenced. The British began a slow march up the hill in two lines, stopping at times to give the artillery a chance to play; but the angle of elevation was such that it did but little execution. The Provincials wasted no ammunition; they had but a scanty supply, and were ordered to put four buck-shot to a bullet, and to reserve their fire until the enemy was at blank shot distance, and then to pour in upon them a volley. The effect was not more destructive than appalling. The British soldiery, expecting nothing but random shots, from undisciplined militia, were astounded at such deadly fires. The British lines broke in confusion; some companies had not twenty soldiers fit for duty when they were about to rally. The British officers had the greatest difficulty in bringing their troops again into line, and a second time they came towards the works, though with some wavering, and in less than fifteen minutes they retreated in still greater confusion than before. Clinton saw this from Boston, and hastened over to assist Howe. Both the generals addressed the soldiers—called to mind their former wreaths of glory—and expatiated largely upon the everlasting stain that would attach to them in being beaten by raw militia. Howe swore to them, that he would never survive the disgrace, if they were beaten that day. By this time Charlestown, consisting of four hundred houses, was in a blaze. This was done by Clinton, to terrify the neighbouring army. On the third attack, they were under the necessity of resorting to their military skill, not daring to risque the event on the score of bravery. Pigot, with a considerable force, took a circuitous rout around the south side of the hill, then came upon the south western angle of the redoubt, and instantly scaled the slight works. Pitcairn was with him, and was shot through the body, as he was about to leap into the redoubt. Pigot being a short man, was lifted by his soldiers upon the sods, from whence he jumped into the area without harm. The provincials were now attacked on the east and west; their

ammunition was exhausted; they had few or no bayonets, but after beating their assailants with the butts of their guns, Prescott ordered a retreat. Those at the breastwork retreated, and those at the rail fence followed. The Americans retreated over Charlestown neck northward; and until the commencement of the retreat, but few of them had been killed: their unwillingness to leave the ground, at the proper season, was the cause of the considerable numbers of the killed and wounded. Captain Knowlton, who had a fine large company, near Mystick river, moved up in good order, and covered the retreat of those from the redoubt and the breastwork. The battle was ended between five and six o'clock. The wind, during the fight, being brisk and westerly, blew the smoke directly in the enemy's face, and as the smoke arose over the heads of the British, the Americans as it were, looking under the cloud, saw where to fire. Prescott, during all the fight, was in the redoubt; the other portion of the Massachusetts militia were at the breastwork. The New Hampshire troops, under Stark, Dearborn, and others, were at the rail fence. They were marching from their native state towards Cambridge, and went on the battle ground from their own impulse, not having received any orders from the commander-in-chief. The British had between three and four thousand in the fight. They acknowledged 1054 killed and wounded, with a great proportion of officers. Their numbers slain was most unquestionably larger than acknowledged; for they brought between three and four hundred corpses, and buried them in the corner of a new burying ground at the bottom of the common in Boston; the others were buried on Breed's-hill, where they fell. The American force was stated to be fifteen hundred, but perhaps there were a few more at times, as volunteers came on the ground, expended their ammunition, and retreated, when they could do no more service to the country. The Provincials had 139 killed, and 314 wounded and missing, forming a total of 453.

The American officers that fell were, Col. Gardener of Cambridge, Lt. Col. Parker of Chelmsford, and Majors Moore and M'Cleary, all men of distinction and value, and heroes in the cause; and to these we must add Major General Joseph Warren. Some of these officers had parts of regiments under their command, and some were volunteers on the hill. General Pomeroy fought with Spartan bravery; he saw where his countrymen were, and then advanced to the fight.

Warren took no command that day. He had been but four days previously commissioned as a Major General by the Provincial Congress, nor had he in fact been sworn into office, except as every patriot had, an oath in Heaven, to live free or die. Warren was, at the moment of his fall, president of the Provincial Congress, and chairman of the committee of safety. He had put some one in the chair, and mounted his horse at Watertown, where the legislative body were in session, to come and encourage his fellow citizens in the fight. When he entered the redoubt, Prescott offered him the command, but he declined it, saying, "I come to *learn war* under an experienced soldier, not to take any command." He became the martyr of that day's glory. His death was deplored as a great calamity to the *cause* and to the *nation*. He was in the prime of life, only thirty-five years of age,—a spirit as bold and dauntless as ever was blazoned in legends or recorded in history. He was a prudent and cautious, but a fearless statesman; made to govern men, and to breathe into them a portion of his own heroick soul. His eloquence was of a high order—His voice was fine, and he could modulate it at his will. His appearance had the air of the soldier, graceful and commanding, united to the manners of a finished gentleman. The British thought that his life was of the utmost importance to the American army; indeed of so much importance, that they supposed they would no longer hold together after his fall. They sadly mistook the men they had to deal with. His blood was not shed in vain; *is cried from the ground for vengeance*, and his name became a watchword in the hour of peril and glory.

The humblest individual, who perished in that fight, was a substantia yeoman or an industrious mechanick

They were owners of the soil for which they fought. The battle scene was imposing. The ground was in the neighbourhood of a city, whose inhabitants were watching the progress of events, anxious for the nearest friends; while the roar of cannon from ships of war, and from floating and stationary batteries, was followed or commingled with incessant volleys of musketry; a well built, compact town was seen in one mass of flames, and all this was thought but the commencement of troubles—was a sight which was appalling to every American, and seemed to shake even the enemy, mind and soul together. The British troops, in considerable force, occupied the hill that night, and enlarged the redoubt to nearly twice the original extent; but they did not venture to light their fires; they laboured by the sinking, flickering lights, which shot up from the mouldering ruins of Charlestown.

For us, struggling for liberty, the event of this battle was most fortunate. They had done enough for honour; enough to produce an impression of their prowess on the minds of their enemies; enough to give them confidence in them elves; and they had learnt something in the way of preparing themselves to correct their errours of judgement in planning a fight. They had suffered enough to feel their loss deeply, yet not enough to weaken their forces. The wounds they had received were too deep to be healed at once; the sight was too awful to be soon forgotten. If the army had come down from Cambridge and Roxbury, the British would have been altogether destroyed; but, with the disposition of the king of England at this period, and the spirit of the ministry, the whole force of the British nation would have been brought to crush us at once. The great mistake made by them was that of undervaluing their enemies.

It is idle for us now to quarrel about each one's share of glory in the fight, where all were brave—Prescott, Putnam, Stark, Gridley, Dearborn, and all, performed their duty—and who could do more in such a case. Some complaints were made to the commander-in-chief, and several officers were arrested and tried for misconduct and cowardice. Among these, was one case which deserves particular mention. Captain Benjamin Callender commanded a company of artillery, and was seen coming from the hill without his men; in fact, finding their ammunition spent, they had retreated contrary to the captain's orders. In the excitement of the moment, the court pronounced Callender guilty of cowardice. His soul revolted at the charge, and all who knew him could not believe it true. He bore his disgrace with that moral fortitude, which is generally of a higher character than personal bravery. He instantly enlisted as a common soldier into the company he had commanded, and followed the fortunes of the war. The soldiers treated him with great respect, as did the officers of the company also, believing him to be a brave and an honourable man It was not long before he had a chance to show the spirit that was in him. In the course of a few campaigns, Callender had an opportunity to distinguish himself; for when his commanders were dead, or had retreated, he in face of the enemy loaded and fired his piece alone, and when his ammunition failed, and the enemy advanced upon him, he mounted his piece, in order to be found a victim on it, to give the lie to his unjust sentence. The British officer who led up those about to take possession of the artillery, noticed the gallant conduct of the artillerist; prevented his men from firing on the unarmed and solitary hero, took him under his care, gave him a letter to General Washington stating the facts, and dismissed him without an exchange. The chieftain received Callender with open arms, and with tears of joy restored his commission, allowing him to take rank from its original date before the battle of Bunker's-hill. Callender remained in the army after the peace, being one of the few retained by the old congress, and he died in the service on the peace establishment. Have we not parallels for every episode of history? Of many of these we must say, as has been said in ancient times of some of the brave and good—"*they had no poet, and they died.*"

Bunker's-hill has now become con-

secrated ground; it has not only been the battle-field, but it is now publick property. Fifty years after it had drunk the blood of friends and foes, the ground was consecrated by eloquence and patriotism, and glorified by the presence of the remnants of that day—the 17th of June, 1775—beings of a former generation, who hung upon society as the leaves of those evergreens which seem to disappear without dying, only making room for new buddings and new expansions. The ravages of time make the treasures of a nation's fame. Let us garner up our notices of past ages, and preserve them in the archives of the country: we shall please and instruct ourselves by so doing, and make posterity lastingly indebted to us for the deed. To transmit the honours of one age to another is our duty; to neglect the merits of our fathers is a disgrace.

Washington, who was appointed on the 15th of June, reached the American camp on the 2d of July, 1775. He was anxiously looked for. The body of men collected at Cambridge were fine materials for an army, but there was little military knowledge and less subordination. On the 5th of July, Washington issued his general order. It is a composition displaying good talents, though not so easy in its style as his subsequent orders. It was then, however, admired as a most wonderful production. The soul of the great man was seen, as it were, brooding over this military chaos, and bringing substantial and beautiful forms to light. The heights surrounding Boston were at once fortified and put in a military posture; and he showed the British what a sagacious mind could do, even if he had not waded through a field of blood. He soon perceived there was almost a total want of bayonets and munitions of war in the army. The muskets were in good condition as fowling pieces, but there were but few bayonets, and no uniformity in calibre. Some were king's arms, some French pieces taken in the different wars, and some Dutch guns bought ages before. To supply the necessary munitions of war was a prime desideratum; and, understanding that several ships were bound to Canada, loaded with the necessary articles, the commander-in-chief gave commissions to several privateers to cruise against the English government ships, and capture them wherever found. This was the boldest act of this great man's life, and, like the rest, it was successful. He was soon aided by the provincial congress of Massachusetts, who also fitted out privateers this season, and formed admiralty courts for themselves.

Before the declaration of independence, 34 valuable prizes had been taken, many of them being laden with the precise articles which were wanted. A distinction was made between the property of the nation and of individuals; as several prizes which were owned by merchants in England were released after capture, and restored to the owners. The prudence of Washington, even more than his great talents, inspired confidence in this sagacious people. His troops were frequently changed while within point blank shot of the enemy fortified on Bunker's-hill, and yet they did not perceive the fact. The six-month men retired, and new recruits took their places, and all was managed with so much circumspection, that it was not discovered when the old departed, and the new came in. He was anxious to do something this summer campaign, which could not be done without risking the safety of the town of Boston, which was a subject for mature consideration, as the war might close in an hour, and the destruction of so important a place would be severely felt.

During this period, Ticonderoga, and Crownpoint, were taken by the troops under Colonels Allen and Arnold.

In the fall, congress had reason to believe that Sir Guy Carleton would attack our frontier from Canada, and to give him employment at home, a plan was laid to attack Canada. Montgomery, who was an experienced general, and a most gallant soldier, was sent by way of Lake Champlain to invade Lower Canada. Troops were at the same time to be sent from Cambridge by way of the river Kennebeck, to meet those coming from New York, to form a junction for the purpose of attacking the city of Quebeck. The command was given

by Washington, to Benedict Arnold, who was made a brigadier general. This was a most arduous campaign. The troops suffered extraordinary hardships, from hunger, cold, and sickness, but the soul of enterprise was in this hardy band of yeomen, who feared nothing but slavery. The attack was made on the city of Quebeck on the last day of the year 1775. It was carried on with daring bravery, but proved *unsuccessful*. Montgomery was slain, and Arnold wounded.

On the 4th of July, 1776, the continental congress declared the thirteen United States to be free, sovereign, and independent. As we have given quite a full and explicit account of this event in the third part of our Treasury of Knowledge, we shall here let the subject pass, with this passing remark, that it was an act of a high and important character, and if the reader will refer to that part of the work, he will find a succinct biography of all the signers of this memorable instrument.

The politicians had taken a bold step, but our armies were unsuccessful during the summer and autumn, and from every quarter gloomy accounts were received. At the close of the year, the battle of Trenton enlivened the spirits of the people, followed as it was by that of Princeton.

The world now perceived that Washington was a military chieftain of a high order. The colonists saw that the British army were numerous; twenty-five thousand men, of the flower of Europe, were now in our country, and must be driven out before American Independence could be sustained. The battle of Brandywine did not dispirit the Americans, although after hard fighting they were obliged to retreat. The battles of Germantown and Redbank were only so many lessons to teach them the art of fighting, and had the effect of rousing their spirit. In the autumn of 1777, an army was sent to stop the progress of General Burgoyne, who marched from Canada by the way of Lake Champlain, to join the British forces in New York; Ticonderoga was yielded to the British without any resistance, and the retreating army was sadly cut up. Burgoyne proceeded victoriously, until the defeat of Count Baum, at Bennington, by the New Hampshire troops, under the command of General Stark. Breyman, who came to assist Baum, was obliged to retreat to the main body. Burgoyne now made a great effort to accomplish his purpose, but the American militia flocked to the army under Gates, and on the 19th of September a spirited engagement took place, the details of which are very interesting, and have been given to the world by some of the actors in the scene which they described; Burgoyne, and the Baroness of Reidesel, are conspicuous among them. Both armies fought well; both lodged that night in their own camps; and both suffered severely. After this battle, his Indian allies deserted the British commander; this was a sad omen. The next battle was fought on the 7th of October, which terminated in the surrender of Burgoyne and his whole forces. Thus a British army, of more than ten thousand men, was forced from the field of action, and the victorious American troops were allowed to turn their attention to other quarters. This disaster aroused General Clinton to proceed up the Hudson from the city of New York, and make an attack on forts Montgomery and Clinton. These miserable works were bravely defended by Governor Clinton; but he could not resist the force brought against him.

This year articles of confederation were formed by thirteen colonies assembled in congress, and the style of the confederation was to be, the "United States of America." Every movement, after this time, became national; and France, which had hitherto delayed joining the cause of American Independence openly, now came out boldly. The national flag of the young republick was fixed upon. Congress now refused to listen to any propositions which were not based upon an acknowledgement of independence. The defeat of Burgoyne was in a short time known to all the great powers of Europe, and it was thought, on the continent, that America would succeed in her momentous struggle. Much was to be done, but all fear of her being defeated had subsided. In 1778, was fought the battle of Monmouth, remarkable for its com-

mencement and termination. Success had flitted from one standard to the other, during the day. The Americans claimed the victory as they slept on their arms in the field of battle, and the British departed that night.

In the summer of this year, a French fleet arrived to assist the United States, but was not of much service, as affairs were managed. The French monarch also sent an ambassador to this country.

The massacre at Wyoming was perpetrated at the close of this season. It was said to have been done under the command of Col. Butler, a refugee, and Brandt, a half-blooded Indian. But, within a few years, the son of Brandt has vindicated his father's memory, and proved to the satisfaction of many historians, that he was not there at the time the bloody deed was done.

In 1779, the war was carried on in the south—a desperate attack was made on Savannah, by the French, under Count D'Estaing, and the Americans, which proved unsuccessful, and with great loss of lives. In the attack, fell the Polish Count Pulaski. He was the "bravest of the brave." His life had been full of adventures. He had been at the head of a revolution in his own country, and performed prodigies of valour, but without success. His deeds have been blazoned in fiction and verse—his whole character was epick.

This year is also memorable for many other events. The Penobscot fleet, under Commodore Saltonstall, was lost. This was a sad blow to Massachusetts; at a heavy expense she had fitted out the expedition.

The six nations of Indians, who had become troublesome by their savage incursions, were chastised by General Sullivan, their country overrun, and their corn fields destroyed. The Indians, under Brandt, made several desperate attempts to avenge themselves, and did considerable injury in the neighbourhood of Albany; but their strength was wasted, and their courage gone.

About this time a settlement was commenced at Lexington, in Kentucky, which, to use the language of the red man, was "the first seed of a big tree."

In 1780, the war raged with great fury in the southern states; victory first favouring one side, and then the other, but nothing decisive was done. Baron De Kalb was slain at the battle of Camden. He was by birth a German, but had been many years in the French service, and was esteemed an intelligent and brave officer.

This year was also marked by the treachery of Arnold, and the death of Andre—events in the annals of the revolution, never to be forgotten. History and fiction have taken them in keeping, and have given every minute circumstance of the affair—Arnold is execrated—Andre loved and pitied.

1781—This year General Greene took command of the southern army; in the early part of it was fought the battle of the Cowpens, which terminated in a brilliant victory, on the part of the Americans. General Morgan and Colonel Washington gained new laurels by their gallant bearing on that day.

In all the attacks and retreats of this year, the British generals, Lords Cornwallis and Rawdon, and the American generals, Greene, Marion, and in truth every other officer intrusted with command, showed themselves worthy of their stations. The battle of Eutaw Springs, fought on the 8th of September of this year, was desperately contested, but proved successful on the part of the Americans.

On the 14th of October, two British redoubts were taken at York Town; and on the 19th of the same month, Lord Cornwallis surrendered to Washington. This victory settled the great question of the longer continuation of British power.

There were some evidences of revenge, rather than of power, after this. The traitor Arnold made a predatory excursion into Virginia, and returning to the north, burnt New London, took Fort Trumbull and Fort Griswold, and acted the part of a vindictive barbarian, whose soul all honour had deserted.

In South Carolina, the scenes of tyranny and oppression were going on. Colonel Hayne was executed by order of Lord Rawdon, which exasperated the whigs of the south.

and urged them to retaliate on every tory.

The year 1782 was memorable for the acknowledgement of American independence by the United Provinces of Holland. In addition to this, Mr. Adams negotiated with them a loan of several millions, then much wanted in the United States.

On the 14th of December, Charleston was evacuated by the British. The war was now virtually closed.

In 1783, peace revisited the weary colonies. Their independence was a knowledged by Great Britain, and by several of the great powers of Europe. Washington disbanded his army, and repairing to Annapolis, where Congress were then sitting, resigned his commission, which he had held nearly eight years, with glory to himself, and honour to his country.

The peace being established, the good and patriotick who had laboured for this momentous event, now felt great anxiety for the general welfare of the country. The pressure of war was no longer felt, but the exhaustion produced by protracted exertion was severe. In several of the states, a spirit of enterprise was discovered—Pennsylvania and Massachusetts established banks; in New York a chamber of commerce was instituted; and a show of business was made in many other places;—but still there was such a want of union of purpose and action, that a more closely connected union became indispensable. To form a government that would give concentration, energy, and dignity to the nation, was the desire and study of every thinking man in the whole community. In several of the states, symptoms of an insurrectionary spirit were seen; and in Massachusetts and New Hampshire they broke out into overt acts, but the insurgents were soon put down, and quiet, if not harmony, was restored. The national debt laid heavy upon the confederation, and they had no means of paying it off, or even the interest of it. A convention was called to form a constitution that would remedy the evils complained of, which had now become alarming—bankruptcy, civil war, and national suicide, were feared to be close at hand. This convention grew out of a proposition of Virginia to the other states. The deliberations of this body were transmitted to the people of the several states for their acceptance. After many difficulties, the system of government offered to the people was adopted; and in 1789 the new constitution went into operation. Washington was elected president, and John Adams vice-president, of the United States; both patriots, who had a strong hold on the affections of the people, for their talents, probity, and services; and their characters inspired a confidence throughout the Union, which also spread to many foreign powers, who, after receiving the inaugural address of George Washington, were prompt in making treaties with the new republick. The appointments of Washington were most judicious; great and good men were put into places of trust and importance. New lifeblood was infused into the body politick, and hope and confidence filled every bosom. The wilderness was explored—institutions of learning grew up—and commerce was extended to every sea. The great publick functionaries declared that "knowledge and virtue were alone the sure basis of human happiness, and that men, to act wisely, must understand their duties and their rights." One difficulty after another vanished; and Washington retired, after two presidential terms of four years, leaving the country in prosperity.

In 1797, Mr. Adams was elevated to the office of chief magistrate. France was now in the confusion following her revolution, and she made improper demands on our country, and not being so speedily answered as she instantly required, commenced seizing American property on the high sea. Letters of marque and reprisal were issued by the government of the United States, and such was the promptitude of our marine, that peace was soon established. The frontiers on the west were vexed with Indian warfare, and often the arms of the republick were not sufficient to keep these fearful foes at a proper distance; but at length being severely

chastised by General Wayne, they sued for peace.

In 1800 the seat of government was removed from Philadelphia to Washington, a new city, which had been designated by Washington, under a law of Congress, a central situation for the representatives of the different states of the Union.

In 1801, a great change was produced in the national opinions of the people of the United States. Mr. Jefferson had been chosen to succeed Mr. Adams, and a change of men was followed by a change of measures. Mr. Jefferson was by nature and practice, a lover of peace, and struggled hard to maintain it in his time. At this period, Louisiana had been ceded by Spain to France. Up to this time, the Americans had used the port of New Orleans as one open to their commerce, which gave them facilities on the western waters. France ordered this port to be closed. Some of the American statesmen thought this sufficient cause of war, and were in favour of taking the port by force of arms; while others were for settling the whole dispute by negotiation. Mr. Jefferson was of the latter opinion, and in 1803 he purchased it for the United States, at the price of fifteen millions of dollars; but before this purchase, the port of New Orleans was open to our commerce. This was a most fortunate bargain, as it has proved, giving the country a large property for a small sum of money, comparatively speaking. The territory was speedily taken possession of, and American enterprise took the place of Spanish sluggishness.

The whole country received a new impulse, and after a few years, the most determined opposer of the purchase was silent on the policy of the measure. Mr. Jefferson pursued his course, secure of the majority of the people; but an intelligent and powerful minority was still against him, and his course of policy. One cause of objection to him was his supposed opposition to the navy—for soon after his coming to the chair, the Barbary powers showed a disposition to take advantage of our supposed want of a naval force, and made high demand of tribute. A portion of our navy was sent into the Mediterranean with instructions to protect our commerce, and to save our citizens from imprisonment; but this was not sufficient; a course more energetick was necessary to vindicate our national honour, and to secure the prosperity of our merchants. These piratical hordes had been the scourge of christendom for ages. They had made the nations of Europe tributary to them for many centuries. They had plundered merchants trafficking in the Mediterranean, and made slaves of their prisoners. They had swept the Adriatick, depredated on the coast of Spain and Italy, and in fact, at times, had the control of the whole Levant. These pirates were so chastised by our navy, that it produced in them a disposition for peace. Our naval officers acquired much glory in this war. Even his holiness the Pope, acknowledged that the young republick had done more towards repressing these pirates in a few years, than all Europe had effected for centuries. The furious Corsair was now found to be a less terrifick foe, than had been imagined. He wanted that skill which could not be supplied by a fanatical bravery.

The commerce of the United States, notwithstanding all its embarrassments, continued to flourish until 1807, when our difficulties commenced with France and England, which grew out of the English orders in council, the Berlin and Milan decrees, and the attack by the British ship Leopard upon the American frigate Chesapeake. This caused the government of the United States to lay a general embargo. This was a severe and inefficacious measure, and was with difficulty carried into effect. One irritation followed another, until, in June, 1812, war was declared by the United States against Great Britain. A great proportion of the population on the sea board were opposed to the war, and a strong protest was entered by the minority in congress against it.

The early part of the war was disastrous to the American arms. General Hull was under the necessity of surrendering his army to the British. Almost at the same time, his nephew, Captain Hull, of the navy, achieved a victory in the capture of the Guerriere. which revived

the spirits of the nation, for they had in general believed that glory was not to be gained in this contest at sea; but it happened otherwise.

This capture was soon followed by others, in which equal gallantry was evinced. Captain Jones, of the Wasp, took the Frolick; Captain Decatur took the Macedonian; and Captain Bainbridge the Java.

American privateers were fitted out, and although property was their great object, yet some very splendid actions were fought by them. The schooner Dolphin, carrying only two guns, under the command of Captain Endicott, captured a British ship of 14 guns. The war now began to wear a serious aspect. There was nothing but disappointment on the frontiers; for if now and then a brilliant action was fought, the advantage was nothing in respect of gaining territory or subduing the enemy.

The tide of war was now turning, when Perry captured the British squadron on Lake Erie. It was a victory won by skill and bravery, and was followed by humanity and courtesy. The battle of the Thames soon followed this naval victory. This action was fought with great prowess by the troops under General Harrison, and no small share of the glory fell to Col. Richard M. Johnson, who commanded a regiment of mounted volunteers from Kentucky. Generals Jackson and Coffee chastised the Creek Indians, and preserved the frontiers from massacre and plunder.

The eyes of the people were now turned to General Brown, for under his command Fort Erie was taken, and the battle of Chippewa fought, which redounded to the honour of the American arms.

The capture of the city of Washmgton happened in August, 1814. This was a mortifying affair on the part of the Americans, and reflected but little credit on the character of the enemy. The capitol was burnt, and all the publick buildings, except the patent office, were destroyed. This building was saved from destruction by the eloquence of Doctor Thornton, who made a feeling appeal to the commanding officer, representing to him that if he burnt that office, he would be ranked with the Goths and Vandals, or with Omar, who burnt the Alexandrian library.

The attack upon Baltimore followed: Major General Ross was slain in this enterprise, and the British retreated.

The battle, on the 25th of December, at New Orleans, was of a decisive character, but that which followed on the 8th of January, was extraordinary in all its features. It was the glorious finale of the war of 1812, a war, which, beyond all human calculation, did immense service to our national character. Those who had prophesied disaster, were disappointed. Those who had for ever traduced the navy were put down, and all parties seemed to be satisfied that they had gained something, and all were rejoiced at the return of peace.

The war had brought the nation before the world; and the fact of having broken the magick of British supremacy on the ocean, alone extended our fame far beyond what any land-fight could possibly have produced. Ages had passed since they had yielded to any thing like equal force, nor did they even think they ever should. It did so happen. If much misery was found in the train of war, as misery always walks in her train, still much was gained in the way of national honour. The President of the United States, although not a military chieftain, was a firm and decided statesman. His state papers were all written in good style, and appeared to the world as documents of great power. He always had the best of the argument, and the powers of Europe were generally on his side. It is not the first time in the history of nations, that accident has done more than calculation.

The war was closed by a treaty between Great Britain and the United States, in December, 1814; and our nation immediately set about reviving commerce, and encouraging the useful arts. The evils we had suffered from having all our work shops in Europe, and particularly in England, during this short war, induced some of the most enterprising citizens to establish factories in many parts of our country Massachusetts, Rhode Island, and Pennsylvania,

took the lead, but other states soon followed; and such was their success in getting machines to answer all the purposes intended, that it was soon seen that the fears that some really had, and others affected to have, on this subject, were entirely groundless. It had been contended that it would require a century to manufacture machinery in the United States that could be depended upon. In less than seven years after the war, some of the best machinery that ever was put in motion, was to be found in many parts of our country. The enterprising promoters of domestick manufactures had to struggle with many discouragements at first; but perseverance will ensure them success, and they will have the satisfaction of knowing that the country can at all times be independent of other nations from her own resources.

While the United States was at war with Great Britain, the dey of Algiers committed many acts of insolence and violence on the persons and property of American citizens. At the termination of the war, the government had leisure to chastise him, and lost no time in sending a squadron to the Mediterranean. Stephen Decatur, with a part of the squadron intended for this station, reached it first, and captured two of the enemy's ships in the most gallant style, which struck terrour into the heart of the dey. When Bainbridge arrived with his large force, the barbarians were disposed to make peace on fair terms. This arrangement he afterwards attempted to get rid of, but was obliged to keep it.

In 1817, Mr. Madison had retired from office, and Mr. Monroe was elected president of the United States. Mr. Madison was an able statesman, and managed the affairs of the nation with great ability, considering all the difficulties he had to contend with. We had to fight the most powerful nation on earth, without any preparation for war. We had to turn our ploughshares into swords, and our pruning-hooks into spears.

The administration of Mr. Monroe was one of peace and prosperity. The Floridas were ceded to the U. States by treaty, in his administration; perhaps the most important negotiation since the purchase of Louisiana, in which transaction he had no small share. Mr. Monroe had been a publick man from earliest manhood, and had filled more important offices than any other person in the United States. In his administration the whole machinery of government moved on harmoniously. In every part of the country the marks and the proofs of prosperity were visible. Not only did the arts and sciences flourish, but institutions of charity and piety were established throughout the land. During his administration, La Fayette was invited to this country, and went through it, receiving all the honours that a grateful people could bestow. This was not all—to show that republicks are not always ungrateful, congress gave him 200,000 dollars, and a grant of land in the Floridas worth much more.

In 1825, John Q. Adams was made president of the United States. He had been secretary of state under Mr. Monroe, and at all times possessed his confidence, consequently there was no change of measures. His inaugural address was filled with respect for his predecessor, and he declared he should tread in his path. He did so. His talents were considered of the highest order, and his education superiour to that of any other statesman in the country. He held his office only one presidential term, when he was succeeded by General Jackson, who had acquired unbounded popularity by his astonishing defence of New Orleans. The General is now serving a second term, and has lately acquired great popularity among those who have heretofore opposed him and his politicks, as well as among his old friends, by his able exposition of the constitution of the United States, in his proclamation issued in consequence of the proceedings of the legislature of South Carolina.

A SKETCH OF THE HISTORY OF THE ARTS.

The arts and sciences are in some way connected with all the powers and faculties of the human mind; and it is impossible to improve in a knowledge of the former, without enlarging and strengthening the latter

Popular and useful science now includes what was once recondite and mysterious. What philosophers once looked grave upon, is now familiar to children as household words. It requires constant labour to keep pace with the knowledge of the times. No hours should be lost —*time is short and science long*—the day has arrived when no narrow view of things will answer.

To show how necessary the arts and sciences are, in bettering the condition and elevating the mind of man, we need only to glance at the origin of the arts. They had their birth in the early ages of time. The first exertions of man must have been directed to sustain his life, to make instruments to kill game, to snare the bird, and hook the fish; and then to form those weapons of self-defence, which have been common to all nations that have been found in savage life. The next art they learned, was one of necessity in a second degree—to dress and prepare the skins of the animals they slew, for clothing and ornament. The next was of a higher order, and required more patience and ingenuity to perform—the bark of trees was pulled apart and put together in new forms, without much machinery but the human hand, which transcends all other machines that ever were created. Spinning and weaving followed. These arose from a love of dress, planted, no doubt, in the human mind for the best of purposes. The dames of the east saw the pods of the cotton plant bursting out with a flower of snowy whiteness, and on taking it into their hands, they found it delicate to the touch, and susceptible of the most wonderful attenuation. Long reflection, and repeated attempts, at length brought it to a thread, and from that to a cloth. So it was with the flax, which grew spontaneously on the banks of the Euphrates and the Nile; they found the fine heard remaining when the other part had decayed, and, twisting it in their fingers, made from it an excellent thread for various purposes in household affairs. One generation improved upon another, as the mother instructed the daughter in successive ages, until all were astonished at the degree of perfection to which the art of making cloth was brought; and they then ascribed the origin of it to some female divinity. The Egyptians gave the credit of the invention to Isis, the Grecians to Minerva, and the Peruvians to the wife of one of the Incas.

The progress of the art of building must at first have been slow, for in the region which was first inhabited, very substantial houses were not required to shelter their inmates. The probable advancement was owing to human pride or religious feeling. The hither and farthest east are marked with pyramids, built before the records which are in existence had commenced. The traveller, George Bethune English, counted in Eastern Abyssinia more than two hundred pyramids, from eighty to one hundred and fifty and two hundred feet in height, which had probably not been seen by any European since the days of Thales. These he considered only as tombstones to the mighty dead of past ages. Some tender-hearted historians have mourned over these vast piles, and imagined the tears and groans of the countless millions who were tasked in their erection. I do not join their lamentations, for it appears to me that these masses were erected not only to gratify pride, but to promote peace. These nations were inclined to cruel wars; and a wise prince often engaged the minds of his people in some national affair, as erecting a temple, building a city, or cutting a canal, to quiet the restless minds of his subjects. David could not build a temple, for he was always at war; but Solomon had peace and leisure, and engaged his people in an undertaking which gratified their national pride.

In this early period, every one who did any thing to advance the arts was paid by extensive renown, and not unfrequently by divine honours. The beautiful fable of the ancients, of Vulcan and his wife, of his forging thunder bolts for his father Jove, was probably nothing more than this:—Some ingenious smith, having made better tempered swords, and more curious shields, than had been in use before, received for his reward from his liege lord, every honour, and with them the hand of his most lovely daughter in marriage; and this Vulcan gave her as a bridal present that wonderful girdle, so exqui-

sitely wrought, by this worker in all metals, since known in every poetick legend as the Cestus of Venus. The ingenuity of the poet was equal at least to that of the artist, and he has described it in transcendent verse.

"In it lives every art and every charm
To win the wisest, and the coldest warm—
Fond love, the gentle vow, the gay desire,
The kind deceit, the still reviving fire,
Persuasive speech, and more persuasive sighs,
Silence that speaks, and eloquence of eyes.

The story of the forge of Vulcan being under Mount Etna is clearly accounted for, by the fact that every artist at that time worked secretly, so that no one should steal his information. The great smith no doubt had his shop in some retired spot, near the mine he was drawing from; and his athletick journeymen and apprentices, with their sinewy arms and ponderous blows, seen and heard by wood cutters and shepherds through masses of smoke, were magnified to Cyclops in their imagination.

In the ages before letters were invented, the arts unquestionably had made some considerable progress; but they could not have reached a very high state of perfection, until one generation were possessed of the signs by which they could communicate their thoughts to another. The hieroglyphicks on Babylonish bricks, are now found to have sounds attached to them, and are, therefore, as much letters as our own alphabet, so that in the days when the Pyramids were erected, letters were known. If written language was not so copious then as at the present day, still it was surely a medium of communication.

Passing from Egypt to Greece, the use of letters was improved, and the arts were refined, and several of them reached perhaps their highest point of perfection. The architecture and sculpture of that day have never been surpassed, if equalled—it was the reign of taste and genius. The talents of the Greeks were not confined to the fine arts alone;—their weapons of war were much better than those of their neighbours. If they did not know how to make steel, they mixed copper and other metallick substances with their iron, to render it tougher than iron could be made alone, and the superiority of their weapons was found in every war they had with the Persians. Their architecture has never been surpassed. No man could speak coarsely who had taste sufficient to admire the Parthenon; and the mind of Greece had stamped itself on every particle of manufactured matter in Attica. In the bosom of the arts man could not be a savage. In all the progress of their arts, the professors of them did homage to the poet, for they not only made the semblance of men after the conception of Homer, but modelled the images of the gods after his description of them in the Iliad.

At the same time that the arts and letters were flourishing in Greece, perhaps previously, commerce had scattered them over many parts of the world. They had made great progress at Jerusalem, and among the Phœnicians and Tyrians. Solomon sent to King Hiram for an accomplished artist, and one was sent of a high order.

"*Now I have sent a cunning man, endowed with understanding, of Hiram my father's, the son of a woman of the daughter of Dan, and his father was a man of Tyre, skilful to work in gold, and in silver, and in brass, in iron and in stone, and in timber, in purple, in blue, and in fine linen, and in crimson: also to grave any manner of graving, and to find out every device which shall be put to him, with thy cunning men, and with the cunning men of my lord David thy father.*"

This is not only a proof of the advancement of the arts, but of the high estimation in which mechanicks were held by the princes of those days. Here was an ingenious son of a widow, extolled by one monarch, and received by another as a friend and brother. The arts, in this instance, were made subservient to piety, as well as to taste and to peace.

The work of Solomon and his artist, the widow's son, is a proof that the arts were in a high state of perfection. If the temple was equal in wonderful workmanship to the Parthenon, it wanted something of the classical taste of the latter. The gorgeous style of Oriental affluence was more regarded by the wise man of Judah than by the architects of Athens.

The Romans borrowed their arts

from Greece; they invented but few things themselves, but were content with what their masters in the arts had produced for them. If they improved in any thing, it was in the use of the mechanical powers, as applied to the battering-ram, and in the art of tempering swords. Their swords were better than those of the nations they contended with. When they fought with the Gauls, they found men as brave as themselves; but the swords of the Gauls were untempered, with a bad cutting edge, and were easily bent in fighting, which rendered them useless until they were straightened, and for this they had no other method than pressing them under their feet.

When Greece was no longer free, and the power of Rome had declined and was tottering towards a fall, then letters were neglected, and the arts ceased to flourish;—then the stern conquerors regarded no arts but those of furious warfare;—food, power, and conquest, were all their wants, and all they sought;—in the halls of the conscript fathers they hunted wild beasts for amusement. With the arts sunk the dignity of man and the courtesies of life. The pride of refinement and of science was no more; but brute force took the reins of government and directed the course of nations.

The arts and sciences were crushed—not destroyed. A chosen few preserved them most sacredly, but they were mixed up with superstitions and mysteries;—then, art and mystery were synonymous; and numerous oaths were necessary to get initiated into any art or science. The building of castles and churches was confined to a few only—that is, a few who knew the plan or intention of the master-builder. That these were faithful workmen, is in evidence when we examine Westminster Abbey, or any of the old churches, from St. Sophia downward. They were made upon the most desirable principles. In the dark ages, the mind had an influence upon the arts, and the arts upon the mind and taste. It would have been quite impossible for the monks to have performed all their rites and ceremonies of flagellation or starving in a fine Grecian temple. They must have had *deep solitudes* and *awful cells* to have brought the mind to such a gloomy discipline;—Gothick gloom and grandeur were necessary to bring the spirit to such cloistered feelings. The learned men of that day were sagacious; they knew that the mind of man, in some degree, resembled the skin of the chameleon—it takes a hue from external matter, from light or shade.

There were some bright spots on the globe in the ages of general darkness—some sweet moments in the passage of time. Arabick literature and science flourished in the ninth century. The house of wisdom was illumined with ten thousand lamps of science, that were suspended to imitate the clear skies and splendid climate of Greece, in the days of her orators and poets. The Arabians had more enthusiasm, if less taste, than the teachers of the world; and in some arts and sciences they surpassed their masters. The first clock that ever measured time was made for the caliph of Bagdad. This art, it has been said, was lost for several centuries. But the successors of that race of men did not forget the discovery of an art of a pernicious nature. The Arabs found out the art of distillation, and exhibited alcohol as a triumph of art, in making nature give up her secrets to those who severally interrogated her; and every rude nation since has kept possession of that secret, until it is no longer one. They have steeped their senses in the alcohol, but found in it none of that inspiration which breathed in the learning of the age and nation whose glories we are glancing at.

Events that seem to astound and afflict mankind at the time they occur, are often made causes of the happiest results. When the Turk came down upon Constantinople, in 1453, all Christendom trembled for the fate of the cross. The political seer beheld in his affrighted visions another Omar demolishing thousands of Christian temples, and erecting mosques in their stead, throughout the world. But these fears were not well grounded. By this event the knowledge which the Greeks still possessed was scattered throughout all Europe. The learned men, who had been dozing at the feet of imbecile tyrants, and wasting the glimmering light of their minds upon de-

cayed institutions, were now driven abroad by the wreck of the eastern empire, and acquired new life by breathing freely the open air of Europe. Letters, it is true, took the first place, but attention to the arts and sciences soon followed.

At this crisis was discovered the most important art that the world has ever known, the invention of printing. Now commenced a union between letters and the arts, that time can never dissolve. It was the bow set in the moral world, by which the Creator declared that the floods of ignorance shall never again deluge mankind. This was indeed the art that harmonized the world, and placed within the grasp of each person, the knowledge of all, for their contemplation and advantage. In a few years after this wonderful invention, the whole of Europe was well supplied with books of value in the different languages, and in the arts and sciences.

Now the enterprising portion of Europe seemed alive with their ambitious pursuits of knowledge:—Florence, Venice, Portugal and Spain, with France and England, turned their attention to cultivating science as well as letters; and soon after this period, Rome, which for so long a time *had believed and slept*, now became alive to painting, architecture, and all the fine arts. In less than half a century after the fall of Constantinople, Columbus had discovered a new world, and Vasco de Gama had found a passage to India by doubling the Cape of Good Hope. Not far from the close of the fifteenth century, the Florentine muses had gained an enviable renown; and Michael Angelo, in the pride of art and science, had declared that he would place the Pantheon in the heavens; and the size of the dome of St. Peter is precisely that of the temple of the gods.

All this would not have given to Europe this Continent, if another art had not been discovered—that of making gunpowder. If the aborigines had been put upon equal grounds with the assailants in regard to weapons, we should not have been here at this day, for sufficient corporeal strength could not have been brought to subdue the natives.

The invention of gunpowder seemed at first to threaten the extermination of the human race; but in process of time, it has been found to have diminished the effusion of human blood. Well might affrighted nations have believed, when they saw the fire flash, the burst of infernal smoke, heard the thunder roll, and witnessed the havock made by the iron messengers of death, that men were soon to be driven from the face of the earth; but it did not so turn out; for the carnage of the battles of Salamis and Lepanto, were thrice as bloody as those of Camperdown, the Nile, Trafalgar and Navarino. The forms of fighting have changed since the introduction of cannon; and the use of the musket has taken off that fury which seizes men who are struggling hand to hand in mortal combat. The fight is now decided by warlike ardour, without individual vengeance. The time is probably near at hand, when art is to proceed much farther in the science of destruction:—The discovery of firing bombs horizontally will unquestionably make a most wonderful change in sea-fight; and this with torpedoes and Greek fire, may soon be in use. Invention is at work, and genius is revolving upon mighty matters in the way of warfare, as well as upon those necessary in the common business of life.

The settlement of this Continent, to use the language of a great statesman, "offered a world of matter for a world of mind." It gave a new spring to industry and to the arts. The art of ship building made more rapid progress, from the voyages of Columbus to the fitting out of the invincible Armada, (from 1492 to 1583, ninety-six years), than it had from the siege of Troy up to the days of Columbus. Cicero speaks of a ship of fifty tuns burden as a splendid affair.

The science of mathematicks was now rapidly gaining ground; and men of science, who formerly only made use of their knowledge to astonish the ignorant, now began to bring it to practical uses, in the arts of life. In 1610, decimal arithmetick was discovered, and in four years afterwards logarithms were invented; of course navigation had

acquired an accuracy that it had not previously possessed.

At the period of settling North America, navigators were not at a loss to find their course to any point on this continent. The errour made by the Dutch navigator, who brought out the pilgrims, was no doubt a wilful one. He knew better.

I will now attempt to trace the progress of the arts in this country. The guides I have to assist me to do this are indeed scanty, and are scattered through many volumes, where such matters are only incidentally mentioned. There is but one statistical work extant that was published in this country previous to the revolution, and this cannot be fully relied upon. I mean Douglass's History of New England.

The settlers of Virginia brought mechanicks capable only of erecting a house or small fort, or constructing a boat. The first object of the settlers was quite indefinite; and trading with the Indians, raising tobacco and corn, constituted their principal pursuits. The ruins of Jamestown discovered no marks of advancement in architecture. They have trusted more, in every stage of their growth, to agriculture than to the arts.

The emigrants which came to other parts of this country, soon after the settlement of Virginia, were, to all intents, at first, a mere trading community, and thought but little of the arts. The mother country furnished all articles they wanted at a much cheaper rate than they could manufacture them here.

The settlement of the pilgrims in 1620, afforded no more mechanicks than were absolutely necessary for the emergencies of the hour:—they came with no other settled purpose than to worship God in their own way. The first buildings they erected at Plymouth, exhibited no marks of taste in the arts. It was reserved for those intelligent colonists who settled the Province of Massachusetts Bay, and who first came to Boston, to be the founders of the mechanick arts in this country. They early began ship-building, and of course encouraged all the mechanicks connected with this business, such as carpenters, anchor-makers, smiths of almost every description sail-makers, riggers, calkers, and gravers, block-makers, &c. Such was their enterprise in this art, that, in 1665, there were one hundred and twenty vessels, from twenty to one hundred tuns, in Massachusetts, and twelve ships of a much larger size. From this time, up to the period of the revolution, many vessels were built for English agents, in New England. On every well situated stream, the business of building vessels was going on, as the lumber and labour was reasonable. and a vessel was soon ready to launch after her keel was laid. These vessels were fastened with trunnels of wood, and much iron was not wanted; whatever was required was brought from England. The men engaged in ship-building had always a powerful influence in the sea-port towns of this country, and they were particularly forward in those stormy times preceding the revolution. Caucuses were first held by them in Boston, and they were the pioneers in every act of opposition.

The art of printing was almost coeval with that of ship-building in this country. A press was established in 1639, at Cambridge, near Boston, and the art has never flagged since. Works of utility, such as the Freeman's Oath, and those opening or explaining the duties of men who loved liberty, were first issued from this press, and then works of piety and sentiment. The history of the press in this country, would of itself make a volume.

The next branch of industry and the arts, was that of making iron; the want of which was greatly felt. In 1645, only fifteen years after the settlement of Boston, the legislature granted leave to certain petitioners to build a forge at Lynn, within ten miles of Boston. The forge was erected, and did well; but some misunderstanding taking place, it was abandoned. The first iron ever made in the colonies was at this forge. The same year, the general Court offered a bounty, and were willing to grant a monopoly for making iron, and did actually appropriate 3,000 acres of land, as an inducement to establish a forge. They indeed went farther, and offered the extraordinary grant of exclusive possession of the territory for three

miles square near the forge, as the domains of the establishment, and that the number of these exclusive grants might be extended to six. In 1652, seven years after this offer, a forge was set up at Raynham, about twenty miles south of Boston, which flourished for some time. More than sixty years after this period, (1715,) pig iron was made in Virginia.

As early as 1659, an attempt was made in Virginia to manufacture silk. An act passed the legislature of that commonwealth for encouraging the manufacture of this article, with an intent for making it a staple for export; but tobacco and wheat were found more productive, and took the place of all other commodities.

In 1703, the business of making silk was introduced into South Carolina, probably by the Huguenots, who fled to this country at the revocation of the edict of Nantz, and it flourished for a while; but it happened, that eight years before this period, (1695) rice was brought there by a vessel from Madagascar, the master of which distributed a bag of rice, and instructed the people in what sorts of soil to sow it. The crop was satisfactory, and this and indigo were the staple articles of export from that state, till in a later age, they were superseded by cotton.

In 1759, Georgia made considerable progress in manufacturing silk; 10,000 pounds were brought that year to Savannah for market. Other crops, however, soon took the place of silk.

After the revolutionary war, there was a successful attempt to manufacture silk in Connecticut; and in 1792, a clergyman's gown, and some silk stockings, were manufactured in that state. In many places this article of late has been attended to; and the yeomen of the country are planting mulberry trees, in order to commence the cultivation of silk on a large scale.

Cotton, now the great staple of the south, was introduced into South Carolina about the middle of the last century. In 1788 it was first planted in Georgia. In 1791, it was first exported from this country.—The same year, a cotton factory was established at Rhode Island, the first, I believe, in the United States. In 1830, 613,185 bales were sent from the United States, and the amount is increasing every year.

Flax was not cultivated for domestick manufacture until 1719, when the Irish settled Londonderry, in New Hampshire. They brought with them the foot-wheel, and began the liberal culture of the flax;—they also brought with them the Irish potato, which, until then, had not been cultivated in New England. The Spanish potato was not introduced until 1764. Soon after this, no inconsiderable quantity of flax was raised; for it was a long time before cotton was brought from the south to New England. The shirts of our fathers were for many years made of woollen: one reason, perhaps, why they had fewer cramps than we are subject to.

Among our early manufactures, were hats of an excellent quality, which were made for exportation. We had plenty of beaver and otter, and made them in a most durable manner. This article was particularly searched for by the custom-house officers, after the navigation act went into effect; but the act was avoided by sending the hat-bodies to the West India Islands, and with them mechanicks as finishers, by which means no inconsiderable trade was carried on. Other articles were managed in the like manner.

It is a fact worth recording, that every attempt of the mother country to retard the growth of manufactures in this country, has eventuated in their advancement. The first attack upon the arts, manufactures, and commerce of this country, was the famous navigation act, passed by the parliament in 1651; in less than two years after the beheading of Charles I., and confirmed and enlarged by Charles II., in 1660. If this act had been rigidly carried into effect, nearly the whole commerce and manufacturing interests of the colonies would have been destroyed. But its enactments were avoided, even by the most conscientious. The custom-houses were not strict, for fear of consequences; for every wise minister of England knew how much the colonies were taxed for carrying on the war with

the French, through the medium of this country. A century passed from the time of Charles II., before England was so unwise as to look more strictly after the customs in this country.

In 1761, the first of the troubles commenced, by drawing too close the cords of the revenue system. The ordinary methods were found not sufficient to prevent smuggling; and the revenue officers in Massachusetts petitioned the Supreme Court of that State for writs of assistance, a process which had been known only to the star-chamber, empowering the officers to break into and enter any dwelling house, as well as store, in search of goods that had not paid duties. This was boldly resisted, and never was granted by the Court.

In 1765, the sugar act was passed. In the same year, came the stamp act. The effect of this was terrible. The colonies denounced it as a death blow to their liberties; and it was resisted in almost every city and town in America. The people entered into agreements not to import the necessary articles of common use from England, and did every thing they could to encourage domestick manufactures. The highest classes came into these agreements most readily, and much was done. The class of students that graduated at Harvard in 1770, appeared in black cloth of domestick manufacture.

An impulse was thus given to domestick industry, and for a while they got on by the warmth of their patriotism, yet the trial was severe. The colonies suffered less for leather than for any other article; for, having sufficient bark at hand, and not much skill being required in the manufacture of the article, they had tanned all the hides produced since the first settlement of the country.

The state of some of the arts, at the breaking out of the war, was, in many respects, at a very low ebb—particularly in those necessary to prepare us for the contest. In ship-building we astonished our enemies, by the size and number of our privateers; but in many instances they went to sea not half furnished with munitions of war, trusting to get their supplies from the enemy; and this they often effected. In June, 1775, there was not a powder-mill in the country. This circumstance put in requisition the whole of the science we had in chymistry, in order to get at a knowledge of making gunpowder. This it took some time to effect.

The first two months that Washington commanded the army at Cambridge, there was not sufficient powder in camp to last for half an hour, should he have engaged the enemy. His camp was frequently supplied with this article from our privateers, which, being commanded by brave men, generally were successful. At that period we had not a sufficient number of gunsmiths to repair the old small arms, which had been used against Indians, deer, and wild-fowl, and now wanted a little tinkering to meet the well armed foe; but mechanical ingenuity, among those who were obliged to turn their hands to almost every thing, soon remedied the most alarming evils, and at the battle of Trenton, clothes and provisions were more wanted than arms. Among those captured, there were many mechanicks, and most of them deserted, finding good encouragement among the captors. After the capture of Burgoyne, artisans had become more plentiful; yet to the close of the war there was hardly a regiment that had muskets of an equal calibre.

The country, at the peace of 1783, would have rubbed along with their manufactures, if a flood of necessary articles had not been poured in upon us, at much lower rates than we could afford to make them for, and of a much finer fabrick than we had learned to manufacture. The little factories, of course, all fell to the ground; and nothing, but here and there a blacksmith's shop, with a few fulling-mills and dressing shops, was found. The saw, and the corn mills, stood as before; these had been necessary for the very existence of the people, and they could not be dispensed with on any change of times.—The agriculturist and the merchant now had the whole field, and grew rich very rapidly, particularly from 1793 to 1806, when we had much of the carrying trade of Europe, then involved in war. After 1806, commerce began to find numerous embarrassments from the Berlin and Milan decrees, and the orders in council · and their embargoes and

non-importation laws followed.—Some capitalists began now to think of investing their funds in manufacturing establishments; but this was hazardous, for a change of times might destroy their prospects at once. England did not believe that any state of things could transfer her work-shops to America; and so firm was she in the opinion, that she laughed at the suggestion. The war of 1812, unfortunate as it might have been deemed by those who opposed it, was necessary to an independence in arts, as well as politicks. This war led some of our most sagacious men to deep reflection on the subject; and the result was to raise a manufacturing interest in our country. It was no hasty business.—They counted our wants, and calculated how they might be supplied at home. They began at the foundation, by making machinery, not thinking it would do even to import that: when the machinery was ready, it was set in motion, and was found to answer every purpose. The people took hold in earnest; and if these establishments have had their dark hours, they have generally survived every difficulty, and are now prosperous. Some have complained of the protection that has been given to manufacturing interests; but the merchant who now complains, will probably in the end be satisfied that it was a judicious policy: and the farmer is already satisfied that a home market is more certain than a foreign one.

There should be no fears entertained that mechanicks will increase too rapidly in this country. As yet we have not reached the point of a wholesome proportion to the agricultural interest. The best political economists agree in this, that one hundred agricultural families ought to support with food sixty-six families, viz.: 1 priest, 2 lawyers, 4 medical men, 4 schoolmasters, 6 tailors, 8 carpenters, 5 smiths, 3 braziers, 2 cabinet-makers, 14 manufacturers, and 12 traders, including clerks. In England, there are double that proportion, which is undoubtedly the cause of the frequent difficulties in the manufacturing cities, because there is not food enough in the country for the support of the whole: and when the mechanick is out of employment, he has no productive resources left.

Other nations of Europe are encouraging the arts and sciences, and lending all their strength, in these times of peace, to build up their manufacturing establishments. Italy now has 100 agricultural families to 31 non-agricultural; France, to 100 agricultural families has 50 non-agricultural;—Germany is enlarging her factories; and every nation that pursues such a course of policy, is securing her independence.

In former times, the prosperity of nations was estimated by the quantity of the precious metals they could command, or the flocks and herds they possessed; but at the present day, the prosperity and wealth of a nation is estimated by the quantity of iron they use;—it is a representative of their enterprise, and of the extent of their industry.

In England there are 278 furnaces in blast, which make 700,000 tuns of pig iron; which produces 545,000 tuns of bar iron: about 150,000 tuns of this is exported, and the balance, 395,000 tuns, is wrought in the country. This is indeed a prodigious quantity. In the United States, there is used over 200,000 tuns of different kinds of iron; about one half of this is imported, and the other half made in this country. Of course there is a fair opportunity for additional furnaces, without being able to supply the market. The use of iron for cables, rail roads, fences, &c., will continue the increase of the demand, as the population increases. A few years ago, we were not apprised of the extent of our own mines, in the numerous classes of minerals. The enterprise and science of the age has made Plutus give up his buried treasure. Of the forty-three metals known now to the artist and the chymist, our country furnishes more than one half of the number, and the most valuable of them—iron, lead, copper, &c., in the greatest abundance. Every day is producing something to add to the comforts of man, and of course to the value of human life. Steamboats and rail-roads have diminished space and shortened time, and allowed us to crowd the labours of a week into the compass of a day. We have now just begun the march

of improvement in the arts, and are becoming acquainted with the laws of nature, and the riches of the earth. It is not more than eighty years ago, our statesmen and political economists saw, or thought they saw, an impediment to the growth of the country, particularly the northern parts of it, in the scarcity of fuel, and legislative aid was invoked to make the yeomen plant trees, to ward off the evil. Others, less timid, anticipated the discovery of coal; but they were thought too credulous.

We live in a world of mutations, and ever changing opinions. It is now short of six hundred years since coal was first introduced as fuel, and Edward the First, prohibited the use of it in London, from the belief that the smoke filled the air with pestilential vapours; when at the present day the same smoke is considered as destroying the pestilence.—Some mechanicks are apprehensive that labour saving machines are to be of great injury to the mass of labourers; but I think that we have nothing to fear from this quarter. In the year 1776, Mr. Hargrave, in England, invented the first spinning-jenny, which has saved countless millions to the nation; and, as far as I am able to learn, has not diminished the price of labour, the only change being in the duties of the workmen. Whatever the operatives may have to fear in England, cannot affect them in this country, while there is such a supply of land for the agriculturist; nor can we tremble at the number of steam engines, considered as consumers of fuel, as the poor do in England, seeing there are 15,000 of them at work in the United Kingdom. Our water power, scattered over the land at convenient distances, precludes the necessity of multiplying these engines in this country to any great extent.

It requires a long time to bring any art or science to a degree of perfection; and although we began with a greater share of intelligence, and more liberal means, than other nations have done, still we have not dedicated to the arts a sufficient number of years, to do ourselves justice as citizens; but every annual exhibition of manufactures shows that mind is increasing its power over matter, and that science is supplying for us what long experience had taught others. No people on earth have so much inventive genius at work, as we have, considering the number of those engaged in the arts. Mind is brought in collision with mind, and sparks of celestial fire are constantly flying abroad. The patent office, although containing some rubbish, as might be expected, is an unquestionable proof, to use the language of a distinguished foreigner, of "a deep thinking people."

A BRIEF HISTORY OF AMERICAN LITERATURE.

American Literature seems to be but imperfectly understood abroad—but when the subject is fully examined it will be found that there have been many excellent writers in this country on many subjects of deep interest to the community. Literature had been cherished in England for the best part of a century before the American colonies were planted, or before they arrived to any consideration, and the planters had no small share of it, especially that part of learning which related to theology and biblical criticism.—The puritan divines were deeply read in the humanities, and when the yoke of Rome was thrown off, they prepared themselves to defend their opinions with all the learning of the East. When these men, and those under their clerical guidance, came to this country, they brought all the books necessary to defend themselves, and the faith they professed, and instruct succeeding generations. Those who did come to this new world for conscience's sake, were among the most enterprising men of the mother country. In 1606, the Virginia settlement began. The next was commenced by the Dutch, on Hudson's river. Smith, the leader of the Virginian colony, was a man of high acquirements and accomplishments. He wrote a minute account of all he saw and examined, and of course must be considered as having commenced the literature of the country. He published, in 1608, his sixth voyage to Virginia; six years afterwards, his first voyage to New-England; and the next year, his second voyage to the same place; and in 1617, a description of the country

These were in addition to works he had previously published of his adventures in other countries.

Among the pilgrims who came to Plymouth in 1620, there were many men of literary information. The venerable Brewster, and his friend Carver, were both well educated, and the political compact drawn up before these pilgrims landed, is sufficient proof of their intelligence; and the correspondence this little band had with the settlers of New Amsterdam, only seven years after they had taken possession of New England, is corroborative of the fact. The letters from Governour Winslow to the governour of New Amsterdam are written with acuteness and elegance.—Several of his productions have come down to us and are much esteemed at the present time. One of his works is called *Good News from New England.*

The colony established by Winthrop, and others, in Massachusetts, in 1630, contained several very learned men, both in law and divinity.—Winthrop was an intelligent lawyer. He kept a journal of his proceedings, and noted all the remarkable events as they happened. This work, after a variety of fortunes, has been given to the publick, nearly or quite complete. Parts of the manuscript had been lost, which a few years since were accidentally found.

Harvard College was established in 1636, and soon afterwards a printing press was set up in Cambridge. From this press issued many valuable works. The first book printed was the Freeman's Call; soon after this, an almanack; and the first political pamphlet was "The Christian Commonwealth," written by Elliot, *the apostle to the Indians*, who soon afterwards learned the language of the aborigines, and translated the Bible into their vernacular tongue, with parcels of several other books for religious instruction. This translation of the Bible must have been a work of prodigious labour.—There are a few copies of it now extant, and these are indeed great curiosities, for the very race it was meant to instruct have vanished from the face of the earth.

Hooker, a divine who came to Boston, wrote many sermons, and a work on church discipline; and at the same period, Thomas Parker, a learned man, was engaged in the cause of literature, with James Noyes, his friend; they were publishers of several works on divinity. Some of Parker's works were on the controversial side.

Mr. Thomas Shephard wrote on metaphysical subjects; such as "*the morality of the Sabbath;*" "*New England's lamentation for Old England's Errours;*" and likewise, "*An explanation of the parable of the ten Virgins.*" This last work is said to abound in the philosophy of the heart, and has been the guide to many who have attempted an analysis of the affections and the passions. When Shephard died, President Oakes delivered a eulogy, in Latin, on his character. Shephard had two sons, who were distinguished scholars.

One of the best writers of that day, was Nathaniel Ward. He was not only a man of versatile genius, but he had laboured in several professions, certainly in law and divinity. He wielded the pen of an accomplished satirist. He wrote "*the simple cobbler of Agawam.*" This was a satire upon the enemies of Charles I., and was full of causticity and wit. He also wrote the "*Body of the Liberties.*" This is a singular work, and perhaps contains more germs of the true and fundamental doctrines of liberty and law, than any work of its size in the world. There is not a feature of all our State and of our federal constitutions, but may be found in the "*Body of the Liberties.*"

Peter Buckeley wrote Latin poetry; some scraps have been preserved. He wrote and published a celebrated theological work, entitled, "*The Covenant of Grace opened.*"

Ezekiel Rogers, a clergyman of Rowley, preached the election sermon in 1643. This production was a most direct promulgation of democracy, as he advocated rotation in office, and urged the impropriety of choosing a governour for a second term. The people were then too wise to follow such advice; but it shows how much the whole mass were inclined to democracy, that such a sermon should have been tolerated.

One of the most voluminous writers of that day, was John Cot-

ton, mostly on subjects of divinity or church government. A catalogue of his works are given, merely to show how indefatigable the founders of our Republick were in all their duties of enlightening the minds of the people: "God's Promise to his Plantation, an election sermon, 1634; a Letter in answer to objections made against the New England Churches, with the questions proposed to such as are admitted to Church Fellowship, 1641; The Way of Life, 4to; God's mercy mixed with his Justice; an Abstract of the Laws of New England, 1641, and a second edition 1655;" this abstract of such laws of the Jews, as were supposed to be of perpetual obligation, was drawn up in 1636, when Vane was governour, though it was never accepted; it is preserved in volume 5, of his historical collections of Massachusetts: "the Church's Resurrection, on the fifth and sixth verses of Revelation xx. 1642 a Modest and Clear Answer to Mr. Ball's discourse on set forms of Prayer; Exposition of Revelation xvi.; the True Constitution of a particular visible church, 1643; the Keys of the Kingdom of Heaven, and power thereof, 1644; the Doctrine of the Church, to which is committed the Keys of the Kingdom of Heaven; the Covenant of God's Free Grace most sweetly unfolded, to which is added, a profession of faith, by Mr. Davenport, 1645—3d edition, 1671; the Way of the Churches of Christ in New England, or the Way of the Churches walking in brotherly equality, &c.; the pouring out of the Seven Vials; the Controversy concerning liberty of Conscience truly stated, 1646; a Treatise, showing that the Singing of Psalms is a good Gospel Ordinance, 1647; the Grounds and Ends of the Baptism of the Children of the Faithful, 1647; a Letter to Mr. Williams; the Bloody Tenet washed, and made white, by the Blood of the Lamb, being discussed and discharged of blood guiltiness by Just Defence, in answer to Mr. Williams, to which is added, a reply to Mr. Williams, answer to Mr. Cotton's letter, 1647; Questions propounded to him by the teaching elders, with his answer to each question; the Way of Congregational Churches cleared in two treatises, against Mr. Baylie and Mr. Rutherford, 1648; of the Holiness of Church Members, proving that visible saints are the matter of the church, 1650; Christ the fountain of Life, 1651; a brief exposition of Ecclesiastes, 1654; his censure of the way of Mr. Hambden of Kent, 1656; Sermons on the first epistle of John, folio; a Discourse on things indifferent, proving, that no church governours have power to impose indifferent things upon the consciences of men; Exposition of Canticles; Milk for Babes; a Catechism; Meat for Strong Men; a Discourse about civil government in a plantation, whose design is religion." The foregoing works were probably all printed at the Cambridge press. We had made a catalogue of the works of this distinguished, early writer, but after considerable research, found one far better made at our hands, by that learned, pious, and indefatigable biographer, Doctor Allen. Every scholar in that age wrote poetry; for they called all their productions poetry, that had been twisted out of the ordinary connexion of common prose;—but at this period, they had no good models of English versification, but Spenser; and they did not relish his use of antiquated words: however, there were some who had the soul of poetry in them.

Anne Bradstreet, who wrote a volume of poems, which were printed as early as 1642, was formed by nature for a poet. She was the wife and daughter of a governour, and was well educated. Her works were historical, metaphysical, and pious; she was as much praised in that day as any of the favourites of the muses are in our times by kind friends; and she had no fear of criticks, for all the satire was reserved for polemick divinity in that day.

Hooker, who came to this country with Cotton and Stone, was a distinguished writer, whose works made up a part of the literature of that age. He wrote a work on church discipline, and published a volume of sermons.

John Norton was one of the great scholars of that early time; he wrote a Latin book in answer to certain questions put to him by the divines of Zealand, and many other works upon theological subjects, taking rank with Cotton and others of his school.

While literature was cultivated, mathematicks were not forgotten.—John Sherman delivered lectures on numbers, and on moral and political economy, as far as the science was then understood. He taught all who listened to him, how to make the best use of the means heaven had given them, both spiritual and temporal.

Winthrop, governour of Connecticut, was son of the chief magistrate of Massachusetts, and a learned man; he was a philosopher.

Roger Williams, who was the founder of Rhode Island, possessed more learning than he had credit for in those days, as his creed was objectionable to many; some of his poetry, and his vocabulary of the Indian language, have come to light of late years, which place him among the best bred scholars of that age.—He is the father of toleration in this country, which is praise enough for one man.

Among the most gifted minds of early times was that of Ann Hutchinson, the wife of a respectable representative in the legislature from Boston. She was metaphysical and eloquent—she admired Cotton, and he had a great respect, as a man of intellect must always have, for a woman of such commanding talents.—She had meetings of women, and broached what the lords of creation thought new doctrines. There was a little touch of what is now called Swedenborgianism in her creed, for she asserted "that believers are personally united with the spirit of God;" and perhaps she assumed a deeper look into futurity than most other women. All this was harmless enough, but not so for the grave divines of her time. They called a synod in 1637, the first ever called in America. This convention condemned eighty-two of her erroneous opinions; and the poor woman, for thinking deeper, and reasoning probably better, than her judges, was banished from Massachusetts. She was a fine spirited woman, and ought to have been made a teacher in the churches, instead of receiving a decree of banishment. She went to Rhode Island, "the asylum of heretics," the highest eulogy that ever was pronounced on any State. She lived there a few years, when her husband died, and she removed to New York. In 1643, she, and the rest of her family were slain by the Indians; this was considered by the superstitious as a just punishment for her numerous errours in religion. The Hon. James Savage, one of the first scholars of this country, is descended from Ann Hutchinson; and prides himself, no doubt, on his ancestry, for who would not be vain of having descended from such a gifted woman?

Elliot had versified David's Psalms, which were unpopular; and Dunster, president of Harvard College, a ripe oriental scholar, attempted to revise them: it would have been better had he attempted to translate them altogether anew. This corrected version was at length superseded by that of Tate and Brady; which was in the next generation superseded by the fine version of Dr. Watts.

The first tragedy written in America, was from the pen of Benjamin Coleman, while he was a student in Harvard College, entitled Gustavus Vasa, and was enacted at Harvard College at a regular commencement. He studied divinity, and was settled at Boston. He was eloquent and affectionate, and was called upon to pronounce the eulogies of most of the great men, who died in his time. From his sermons, more than a hundred in number, many facts have been taken for the biographies of the "illustrious men who were his predecessors."

Others were also distinguished as scholars, divines, and philosophers; but none more so than the Mathers, father and son. Increase, the elder, was president of Harvard College, was an agent for the colony in England, and wrote a great many excellent works. He was one of the chief labourers in the literary vineyard; and as such, was surpassed only by his son Cotton, the greatest prodigy of learning, of this, or of almost any other age or country. Cotton Mather was born in 1663, at which time the whole country was new, and the views even of the statesman and divine extended but little beyond the plantation, as a religious community, and before many had looked forward to the growth and power of the Colonies. Cotton Mather was the most voluminous writer that ever appeared in this country. The number of his works ac-

cording to one of his biographers, amounted to 383; many of them of considerable size. The Magnalia is the one now most often read. It contains a great portion of historical matter, and often serves for data to those who most violently abuse the author and his writings. A deep hatred against him, was fixed in the minds of many, at the course pursued in the affair of witchcraft in 1692, and previous. Mather was deceived, for he could not have intended to do wrong, and has only the sin to answer for which lies at the door of many now-a-days, "*of forgetting, in their zeal to do good, the necessity of examining the means they use to effect their purpose.*"

To Robert Calef, we owe much; he was opposed to Mather's course, and came out boldly against it. His facts are clearly stated, and his reasons fairly given. The common sense of the people was awakened, and the whole delusion vanished, but not without a struggle on the part of the Mathers, and their friends.

Michael Wigglesworth, was contemporary with Cotton Mather, but his senior.—He was an invalid most of his days, and his mind naturally turned on solemn subjects. As was not uncommon at that time, he acted in the double capacity of divine and physician to his flock. He was, for many years, confined to his house, and there he sought to do good by his poetry. He published a poem, called the Day of Doom; it was a poetical description of the great and awful day of judgement. He also published a discourse on eternity, and several other short labours upon the solemn subjects of a change of worlds. Wigglesworth was a poet of no ordinary genius, and of extensive acquirements. His descendants, down to this day, have, in every generation, been distinguished for talents and learning. There is a deep feeling in his Day of Doom, which only wants the skill of modern verse, to make greatly effective. The same thoughts, wrought up by Scott or Moore, would be admired.

The first century of New England history was closing as the Mathers went down to the tomb. The scholars now in life had been educated at Harvard College, and all the statesmen, and literati seemed to consider this their native land, which had not been the case for a great part of the first century. Connecticut now put in her claims for distinction. She had commenced a college, and could already boast of many intelligent men in every walk of life. Good Dean Berkeley, and others, had been roused by the reputation the colonies had acquired, in their short existence, and were desirous of having a share in the literature of the country.—Berkeley foresaw the coming glories of this country; and though it was not in the nature of things for him to realize his anticipations, yet his visions were prophetick. What he waited for and expected in his day, came in due time, even in less than a century. He is not less a seer that foretells events, because he cannot answer for times; things are often disclosed when the hour of their advent is hidden, notwithstanding this: the little poem by the Dean upon this country has been and still is considered a sort of prophecy.

When William and Mary came to the throne of Great Britain, a new charter was given to Massachusetts, and war and conquest, in some measure, took the place of religious discussions. Sir William Phipps brought out lawyers with him, and some new books, which had an effect on the taste of the times. Publick schools were now cherished; commerce was engaged in; and the whole people began to believe that they were destined for something more than a mere plantation for religious purposes. The people began to think that the press was intended for more than an instrument to make numerous copies of a book, and held it in the light of a security for the liberties they possessed.—Book printing had been known in Boston for many years before a newspaper was established. In 1636 books were printed, but it was not until 1704 that a newspaper was established. In 1686 there was a press set up in Philadelphia, and in seven years afterwards in New York—but pamphlet printing constituted the most of the business. The clergy were the great patrons of the press for the first century.

The News Letter was published at Boston in 1704, and continued for the space of seventy-two years, un-

til after the commencement of the war of the revolution. The Boston Gazette was next established, and the third was the New England Courant, by the elder brother of Benjamin Franklin, and in which that great philosopher was engaged as an apprentice. The first paper published in Philadelphia was issued in 1719, and the first in New York in 1725.

Among the most valuable writers of this country was Thomas Prince, the chronologist; he was a fine scholar, deeply read in civil, military, and ecclesiastical history. He travelled, became an excellent oriental scholar, and returned home fraught with all the collected wisdom of the old world, and at once set about doing something for the honour of his native land. He was the first who gave an account of the Aurora Borealis in this country. This phenomenon was seen by most with superstitious dread; but he met it upon sound principles of natural philosophy, and calmed the fears of the publick. His productions are numerous, and are all marked with great good sense; but his chronology is the most esteemed of all his works, for its profound research. It is to be lamented that he did not bring his work down to more modern times. He spent too much time on the fabulous or doubtful parts of history to finish a table of the minute events of his own times. His labours should be continued by some of his countrymen, for there are ample materials for such a work; but perhaps whoever would undertake the task, would find himself but ill-paid for his trouble, and mortified as Prince was, at its slow sale; for while the publick were praising the work, the writer was left to pay the printer. It is often to be regretted, that the book which the learned admire, and extoll, finds, perhaps, but few purchasers.

Benjamin Franklin was born in 1706, and while a youth, was distinguished for his talents. He marked out a new path for himself. His essays were plain, and so full of good sense, that he became at once a popular writer. In 1732, he began his Poor Richard's Almanack, which abounded in such aphorisms and sayings as would attract all tastes and were useful for all conditions.—He then became a political writer, and was the first to gather a sufficient body of statisticks to form correct opinions, and probably was the best informed man on general colonial subjects in the country. He next made many experiments in electricity, for the safety of human life. He also suggested a plan of union and defence for the colonies. His whole life was one long day of mental efforts, and his writings have an influence on this enlightened age.

David Mason, a pupil of Franklin, in a few years after the philosopher's experiments in electricity, gave lectures upon the science, and excited the wonder of the people at the phenomena he exhibited by his machine. He was also acquainted with the science of chymistry, as it was then known in Europe; and was called by the legislature of Massachusetts to teach the art of making gunpowder.

From the first settlement of the country, the almanacks had exhibited a sufficiency of science for their general purposes, and oftentimes much more; and the literary information they contained was profitable, and widely diffused.

Doctor William Douglas wrote a summary account of the colonies, and something on botany, statisticks, and political economy.

Paul Dudley was the first in this country who turned his attention to natural history, and some of his papers are specimens of fine writing.

Mark Catesby's works at this time became known. He travelled through Virginia and South Carolina; both of which abounded in plants, animals, and eminent materials for a naturalist. He returned to Europe, and procured assistance in getting out his work; a production which has much assisted our botanists in later times.

The science of mind had now begun to call forth the attention of the ablest men in this country. Polemick divinity had lost some of its popularity, and new paths of learning were to be explored. Among the most distinguished of these philosophers, was Jonathan Edwards, who wrote on the "Freedom of the Will." This work has received the highest encomiums from those great

men of Europe, who have made metaphysicks a study.—Sir James Mackintosh, in the last labour of his mind, spoke of Edwards with profound respect. The works of our metaphysician have been published in eight octavo volumes, of large size, and, to the credit of the country, sold well. His son was quite as profound in the science as his father, and his style more clear and attractive; but the second in any pathway, has generally less fame than the leader.

In 1763, the subject of introducing bishops into America, brought forward some of its best writers, among whom was Abthorp, rector of the episcopal church in Cambridge. It was a harmless affair in itself, but was made, from fears of the orthodox puritans, a matter of moment. Seabury, Johnson, Chauncey, and Mayhew, all engaged in the controversy, and displayed no ordinary talents. In Mayhew's productions there was much energy and bold freedom of political remark. He discovered no partiality for Saint Charles I., and refused to put him upon the calendar of the pious army of martyrs, although it was certain that he died after the manner of them. Doctor Mayhew was one of those men who enter so deeply into the affairs of their professional duties, that they forget how much is justly due to their animal nature—and wore himself fairly out, before he had reached the best age of mental labour. He died at the age of forty-six, of a nervous fever, brought on by excessive study.

Several institutions of learning had been founded, and were in a state of *hopeful experiment*, besides the college at Cambridge. Yale College was in a thriving condition long before the period to which we have brought down our cursory remarks upon American literature;—and the college at Providence, (now Brown University, and under excellent auspices,) had connected with it some fine scholars. Nassau Hall had been founded, and a circle of learned men were soon brought from its walls—the Burrs, and the Edwardses are among them. Columbia College, (then King's College,) had gone into operation before some of those we have mentioned; as also Dartmouth College, and all were doing well. There was now something fixed and settled, as it regarded future operations in the arts and sciences. At this juncture the revolutionary troubles came on—but there were mighty minds harnessed for the hour of battle. The mental resources of the country had been collecting for the crisis; and all were fearless in the cause. We pause a moment, to show who wrote on this subject. The currents of Time will let these records last.

Among the writers, whose works more immediately assisted in bringing on the revolution, we may record James Otis. In 1765 he wrote a pamphlet on the stamp act. This, at the time, was considered an excellent piece of fine writing, and was republished in London by the friends of America. The works of Mr. Otis were not numerous; and there can be no doubt, but that his fame as an orator, added much to his reputation as a writer; and more than this, the nature of his subjects at that time were all-absorbing. His writings, however, aside from their political character, had, it was agreed by friends and foes, great merit. He wrote, "A vindication of the conduct of the House of Representatives of Massachusetts," in 1762; the Rights of the British Colonies Asserted, 1764; and Considerations on behalf of the Colonists, 1765. These productions were scattered through the country, and every copy was read at least by five hundred persons, so popular was all he wrote at the time; and in the discussions upon the subject, more anecdotes of the effects of his eloquence were told, than ever Greek or Roman had in store for the fame of Demosthenes or Tully: but abating much for all the enthusiasm of the times, there can be no doubt but he had a powerful pen, and a tongue of fire.

Another of that band of patriots, whose writings did much to awaken and cherish the flame of liberty, was John Adams. He wrote several essays over the signature of NOVANGLUS, in answer to some papers on the royal side, signed MASSACHUSETTENSIS, written by a lawyer of the name of Leonard. These were papers creditable to both, as matters

of argument, and were admired and extolled, as people took sides. Mr. Adams was on the popular side upon the great questions then agitated in the country. During this period, he had acted in the highest political capacities; but here we have only to mention his writings. He published "A Defence of the American Constitution," to appease an opinion then prevalent among many patriots, that a single assembly was the only true government. This opinion was advocated both in England and France, and it cannot be denied, was favoured by Franklin. Mr. Adams ransacked history to show that such a government was defective, and the theory is now at rest. In his old age, and in retirement, Mr. Adams poured out his opinions in a series of pieces, which afford the statesmen many early facts, and opinions which are valuable to the historian. His style was bold and characteristick, and evinced marks of deep reading, and profound reflection.

Samuel Cooper, a clergyman of Boston, was a constant writer in the cause of liberty. He wrote a political discourse, as early as 1759, on the taking of Quebeck, which directed the attention of the politicians of the day to him, as master of a fine pen in the cause of rational liberty. All his writings, from that time, had a bearing on the great question between the mother country and the colonies. There was an eloquence and grace in his productions, beyond the style of the times, and he became a man of wonderful influence in all political controversies. Works of this nature, in some measure, lose their charm in an after age,—but Cooper's writings are tasteful at this day.

Josiah Quincy ranks among the writers of that day as wielding an elegant pen. He was a man of genius, and earnestly engaged in the cause of freedom: and when the Boston *Port Bill* came to this country, and was put in force, he wrote a pamphlet, entitled, "Thoughts on the Boston Port Bill, &c., addressed to the freeholders and yeomanry of Massachusetts." It was spirited, and in many parts highly eloquent. He had much of the Grecian spirit, and not a small share of Athenian eloquence. He fell a victim to his vigils of patriotism in early life.

One of the best writers of the age, was John Dickinson, who was born in Maryland, but was active in Delaware and Pennsylvania. In 1767, he began to publish tracts against the taxation of the colonies. These were masterly productions, and deserve to rank among the best specimens of American genius. He was a member of the Congress of 1774; and his pen was frequently employed in drafting the most important state papers. The address to the inhabitants of Canada, the first petition to the king, the address to the army, the second petition to the king, and the address to the several states, were written by him. One of these petitions to the king, was the production which called forth the memorable compliment from Lord Chatham, in which he called him superiour to any classical writer of antiquity. While president of Delaware, he published a proclamation to his people, full of lessons of wisdom. When the constitution of the United States was under discussion, he wrote a number of letters, signed Fabius, in order to forward the adoption of it, which merit reading at the present day. Many other works came from his hand, all tending to publick good. His works have been collected and published in two volumes; but are now only to be found in publick libraries, and with those who are lovers of the curious and rare; they ought, and will be reprinted, and placed along side of the FEDERALISTS and other standard works of American literature.

South Carolina boasts, and with justice, of her patriotick writers in the great cause of freedom, one of whom was William Henry Drayton. He was a prime scholar—enlightened and polished by foreign travel. On coming home, he became at once a patriot, and took up his pen in the cause of his country. He wrote a pamphlet, addressed to Congress, under the signature of "Freeman," in which he expatiated upon the grievances of America, and then openly stated their rights. He also published a charge to the grand jury of his state, which is now incorporated into the history of those times.

He also wrote a history of the American Revolution, but his materials were not so extensive as those of Ramsay and others.

William Livingston, of New Jersey, wrote many things to rouse the people of his state to vigorous exertions in the cause of liberty, and was justly ranked among the patriots and fine writers of his time. He was not confined to one department of literature, for his poetry had as much spirit as his prose. He presented to the New York Historical Society, or his son did, from his library, the journal of the British House of Commons for several years, comprising the period commencing a year or more before the death of Charles the First, and extending nearly to the time of the restoration. They are proved to be genuine and original from the following indices, viz.: from the water-marks of the paper on which they are written; the first volumes have the royal stamp on the paper; the next, the fools-cap and bills, ordered by government in derision, to take the place of the royal arms;—this continues for some volumes, and then appear the arms assumed by the commonwealth; and then, those of the lord protector, Oliver Cromwell. These volumes unquestionably were brought over to this country by the regicides, who wished to hide the record of their proceedings, in order to prevent Charles II. from finding out all that was done in his exile. This was the safest place for them, and here they will be preserved for future history. It is a singular fact, that every English historian is silent upon their loss, and no one has ever pretended to quote these journals; yet much useful matter may be extracted from them, and many things that English history does not contain may be found there. Some one of the Livingston family may give a minute history of their being found in this country. It would be as acceptable as curious.

David Dulany, of Maryland, was one of the writers upon political subjects, previous to the revolution. He wrote several treatises on the great subjects of taxes and other matters, which agitated the colonies at that time; but he did not live to see the end of the contest, in which he had so heartily entered and with so much reputation. He was one of the number who were early called to their account; but it is a remarkable fact, that those who entered into the cause of freedom—heart and soul—lived longer than most other men;—whether it was because they were animated with heroick sentiments, or from some other reason, the fact is nevertheless certain, that the signers of the declaration of independence, as a body of men, arrived at a greater age, and died more quietly, than any fifty-six that could ever be named, as acting together in any important national concern.

Virginia had her share of good writers, who were engaged in enlightening the American people during the revolutionary contest. The Lees were among the most distinguished. Richard Henry Lee, among other works, wrote what has been called the "Farmer's Letter," and the second address to the people of Great Britain. These productions evinced patriotism and scholarship. Arthur Lee, his brother, was also a political writer of distinction. He wrote letters under the signature of Junius Americanus, which held a high rank at the time, among the literati of America. Mr. Jefferson wrote the declaration of independence, Notes on Virginia, and a Manual of Parliamentary Practice for the use of the Senate of the United States, which was an abridgement, with some alterations, from Hatsell's great work on the same subject. Hatsell was clerk of the House of Commons from 1768 to 1797, and was thoroughly acquainted with all the rules and order of parliamentary proceedings, which is a science in itself, not thoroughly understood by many politicians. Mr. Jefferson's acute mind at once penetrated the arcana.

It would be unjust to pass over General Joseph Warren, who fell at Bunker Hill, in our notice of those who had added to the stores of American literature. He was a frequent writer in the periodical journals of the day, where he poured forth all the warmth of his soul. He delivered two orations on the Boston massacre, one in 1772, and another in 1775; and perhaps no two orations since the days of Demosthenes' orations against

Philip, ever had such an influence upon an audience, or such an effect upon the people generally. These productions have been used for declamation by every schoolboy since that time. The burst of indignation—the high toned patriotism—the fundamental maxims of a free people, all came in torrents of eloquence; and its effects were felt through the country. On the 17th of June, 1775, he sealed his course with his blood, being the first martyr of the revolution. He was assisted in defending the views of freemen and their rights, by Hancock, Church, and others of note, who were zealous in the cause of their country.

The literature of the revolution, was bold, direct, and without any affectation. Any high exertions of mind will produce new and ardent expressions; and these, after a while, will be moulded by taste. If you take the orders and proclamations of Washington—the letters written by him in the exigencies of the moment,—there will be found that strength and felicity of expression, that is supposed to be the offspring of care and leisure. Some of the writings of Knox, Schuyler, Brooks, Laurence, and others, during the most gloomy parts of the contest, are marked with excellent sense, and often are elegant compositions. The commentaries of Cæsar, were written in a camp.—When the mind is under excitement, we often find that it receives the best method of thought and expression. In the intercourse of a camp, some minds are always found, which give a direction and tone to the rest. It was so in our army; and even in a prison, instruction may be received.

It is a singular fact, that the diplomatick correspondence of the revolution has not been surpassed; nor has modern times improved much upon the styles of Adams, Washington, Lee, Jefferson, Hamilton, or Dickinson. The poets of those days, had not the models before them, that they now have; but few productions contain more elegant satire, than can be found in M'Fingal, or more patriotism than can be discovered in the arousing songs of Freneau. When one mind pervades all classes of men, improvement is rapid; every beam of light that is reflected, and refracted in a community, acting in unison, increases the force and power of the ray. If the whole nation had gone to school, instead of going to fight, they would not have learned as much as they did in the eight years' war they waged for independence. Heaven never intended that the choicest blessings should be had without pains and labour.

Since the revolution, we may fairly class the writers that have been conspicuous in our country; for, notwithstanding our habits and forms of society did not allow any one to follow exclusively one course, yet there has been a finer opportunity for men to display their particular talents, than there was when every one bent his whole soul to one great object, that of gaining for his country the rank of an independent nation. A nation, like an individual, must go through a course of discipline, to form a character. It might be impossible to form a nation that should bring all their energies to the best possible direction, without going through a series of difficulties, teaching forbearance, sacrifices of local prejudices, and making each part acquainted with the characters of the whole. The revolution contributed as much to the advancement of learning, as it was necessary to the formation of national character.

Before the revolution, it was difficult to place our writers into classes, for almost all were miscellaneous in their productions; since that period, notwithstanding no man has exclusively followed any one branch of learning, still the classification is more distinct than in former times, and we shall give an account of our authors and their works under distinct heads.

History and Biography.—Ramsay's history of the United States, ranks among the best works we have in our libraries. He had ample materials for his work, and particularly that part of it which relates to the revolution, as he was a member of Congress, at one time president of that body, and consulted with Washington upon all the important events of the revolutionary war. He was a fair-minded historian. He also wrote a compend of universal history, which did him great credit.

Holmes' Annals of America, from

1492 to 1826—the second edition in two large volumes, is one of the most useful works ever printed in the United States. It is pretty copious, very correct in dates, and in description of events, and adorned with much accurate and excellent biography. It is written by a scholar, who had no prejudices, who is a great antiquarian, and a lover of his country; and if it now and then shows a little more partiality to saints of his own creed than to saints of another creed, it requires no small sagacity to find it out. Every future historian will plunder him; but it will be impossible for any one to abuse him. A more unpretending, and a more valuable work, was never published.—Marshall's history of the Colonies, and, his life of Washington, are valuable works; what they want in the charm of fine writing is amply made up in accurate observation and impartial delineation.

The histories of the several States have been written with more or less ability. Belknap's history of New Hampshire is a work of merit. He had access to the best materials, and he wrote with honesty, intelligence, and taste. In fact, it is one of the best specimens of the style of our writer's extant. It is a remarkable fact, that no one has attempted the subject since, except in the way of illustration or explanation.

Sullivan, a man of genius and learning, has written the history of the District, now the State of Maine, but his materials were scanty, and notwithstanding he did all that a man of talents at that time could do, yet a more copious history of that growing state is wanted.

The history of Massachusetts has been more fully written out than that of any other state. In addition to the works of Winthrop, Hubbard, and others of the early settlers, we have many of modern times that are worthy of notice; such as Minott's and Bradford's histories of Massachusetts, and Hannah Adams' History of New England. This lady was one of the most candid and accurate historians that ever wrote. She set down no assertion that had not proof to support it, nor one that had a particle of prejudice to be abtracted from it. It may be said, without fear of contradiction, that the historians of New England have been more assiduous than those of any other portion of this extended country.

Trumbull's history of Connecticut is a good ground-work for a future writer. He is explicit and honest; had nothing to disguise, nor did he "set down aught in malice." The history was an eventful one, and he handled it with great simplicity.

Professor Williams has written a history of Vermont, but that state has so wonderfully increased in population, wealth, and character, that it will be only the ground-work of a more full history: but it is fortunate that this ground-work is so philosophical. The commencement of most histories is fable and romance—this is otherwise, being fact and philosophy.

Flint has written a history, and given some account of the geography of the Western States. He is shrewd, capable, literary, and eloquent. It is impossible that he should have done entire justice to this new world in so small a compass—but it is the first of all considerations, that what is done, should be well done,—this praise no one will deny him. It is to be wished, that he may live to fill up his great outlines.

In modern times, Yates and Moulton have written most excellently upon the history of New York, and these men are capable of giving a full history of this state; but this will not probably be done, until the government of the state make some provision for forwarding the work. To give a fair and correct history of this state, requires more research and labour, than to write the history of any other of the states, as more than half a century of it is in Dutch records. It is said that the materials are ample, and there can be no doubt of it, as the Dutch were the most minute, pains-taking, and accurate of the nations of Europe, and they could not have been wanting in making journals and observations on all the passing events of the times in which they lived. New York, the centre of the Union, and the mart of the world, should have minute and well written accounts of all she has done, and all she is.

Stoddard has made some judicious sketches of the history of Louisiana,

which deserve credit: but that old territory, though new to the United States, deserves a full history. It is already, and every day becoming more important to the United States, and should be fully known to all the members of this great republick.

M'Call has, with considerable talent, given us a history of Georgia; but there is a more ample field than he had at that moment means to explore. This state is now a large one, although the last settled of the old thirteen states. The character of Oglethorpe, the founder, has not yet been fully written out.

The histories of Ohio, Kentucky, Missouri, Indiana, Mississippi, and other new states, have only been partially written. The lovers of history should, at this moment, set about making exertions to have all the facts relating to those interesting sections of the country gathered up, and put into proper form.

Pitkins' Political and Civil History of the United States is a valuable work. It covers a period from 1763 to 1798. This work shows us more of the labours of the statesmen of that period, than any other production. Miller's Retrospect of the Eighteenth Century is a work of great research. It was printed at the commencement of the nineteenth century, just as American literature began to expand. Thomas' history of Printing is a curious book. The writer has done much for learning, by establishing an antiquarian society, and gathering a fine library for publick use. He was a printer himself, and had treasured up many important facts. Lyman's history of the Diplomacy of the United States is valuable to every statesman and historian. It required no small share of perseverance to collect and arrange such a mass of matter.

Mr. Sparks, an able scholar, who has the Washington papers, amounting to sixty volumes of manuscripts, and a mass of other matters from the Colonial office in England, is now furnishing the country with a view of these subjects, on a most extended scale. It will be several years before his labours can be finished, for he does every thing thoroughly.

In biography the country has been pretty well supplied since the revolution. Besides the Biographical Dictionaries of Elliot, Hardie, Allen, Rogers, and others, we have many works on this subject, containing only a few names, or, in many instances, only one name. Ramsay, Marshall, Bancroft, and Weems, have published lives of Washington in good sized volumes; and a hundred sketches of the father of his country may be found in the journals published since and before his death.

One of the most elegant pieces of composition to be found in our language of the kind, is Washington Irving's life of Columbus. He went to the fountain head for his materials, and spared no pains in working them up.

Tudor's life of Otis is a valuable work, not so much for delineation of character, as accurate historical anecdote. He was an excellent scholar and a great lover of his country.

The Lees of Virginia, whom we have heretofore named in this sketch of literary history, have found an able historian in one of their descendants.

Wirt's life of Patrick Henry has been one of the most popular works ever printed in our country. It has lately appeared in a new edition, with the memoir of the author, written in good taste.

Judge Johnson's life of General Greene, is an elaborate and a minute work, enriched by some of Greene's correspondence, which shows the directness and strength of his mind more than any thing could do unsupported by such proof.

A life of Governeur Morris has been given by Mr. Sparks, in addition to his other labours, which is a most interesting book, full of the events of the French revolution, a most important period in the civilized world. The same author has also given to the publick the life of the traveller Ledyard, whose sober history, without a particle of embellishment, is a romantick tale.

Sanderson's lives of the signers of the declaration, is a clever work. A volume containing their lives was printed at Hartford; and brief sketches of these distinguished men will be found in the first volume of the Treasury of Knowledge, from another hand.

Colden's life of Robert Fulton is a valuable work. It proves how much

can be done by genius and perseverance. Every inventer should read this book, when discouraged by untoward events; for never was there a more persevering spirit than Robert Fulton. Who has, in the end, done more good?

Brown, the novelist, wrote the life of Dr. Linn. It is a fine specimen of writing, and of warm and affectionate colouring. The writer and subject were poets and friends. There is a glow in this little work that would do honour to the pen of Burke.

Dunlap, the painter and dramatist, several years since published the life of Charles Brockden Brown. It is a fair and faithful account of that distinguished writer, who died before the publick could fully appreciate his merits. In the minds of many it was thought almost criminal to deal in fiction, and some esteemed it a species of falsehood; but since Brown's death this prejudice has been scattered to the winds by the magick wand of Sir Walter Scott, and many admirable lessons of wisdom been given through the medium of fiction.

Dr. Hosack's memoir of De Witt Clinton was written soon after that great statesman died. The work contains many valuable facts for the future historian, expressed in a clear and perspicuous manner. The obituarist seemed fearful of eulogy, and of being considered too partial to his excellent friend, and has spoken of him in a subdued tone, when he might have indulged in higher notes of praise.

THE POETRY OF THE UNITED STATES, *since the declaration of independence.*—The conquest of Canaan, an epick poem, by Timothy Dwight, was not published until 1785; this was hailed as a work of high merit. It was written when the author was quite young, and is full of poetry, certainly; and a hundred years hence, will rank higher than it now does. He wrote Greenfield Hill, and several other poems. Dwight was a man of genius, of acquirements, and virtue; but he lived too much with the pious and particular, to become sufficiently acquainted with those incidents that mark the pathway of mankind in general, a knowledge of which is so essentially necessary to the poet. He was a virtuous man and a good scholar.

Joel Barlow published his Vision of Columbus, in 1787, and dedicated it to Louis XVI. After the first publication, he remodelled it, called it the Columbiad, and made it quite another thing, in politicks. This has appeared in a most splendid edition in this country, and in the opinion of many, stands at the head of our poetry. He wrote other works, such as, Conspiracy of Kings, Hasty Pudding, &c.

General Humphrey also wrote poetry, and was considered as one of the poetick trio of Connecticut at that time. He, with Trumbull, Barlow, and Hopkins, wrote the Anarchiad. In 1782 he published a poetical address to the armies of the United States. He wrote a poem on the happiness of America; on the future glory of the United States; on the industry of the United States, &c. &c. He had more of the polish of the soldier than the spirit of the poet; but he has many admirers, and still holds a rank among the best and most patriotick writers of this country.

Richard Alsop was one of the Connecticut poets, who wrote for the pleasure of the hour. He has the credit of getting up the ECHO, a work of great poetical power, sometimes in burlesque and sometimes slyly grave. This work contained some admirable hits upon the reigning follies of the times, and now and then drew a feather across a favourite's nose. Alsop left several unpublished poems, and published a good many things for amusement only. The Echo is one of the best satires ever written in this country. His coadjutors were Theodore Dwight, Trumbull, Hopkins, and others, not so distinctly known.

Mrs. Warren should have been named before these Lards. She wrote two tragedies, "*The Sack of Rome*," and "The Ladies of Castile." These were written during the war, and all for patriotick purposes. Previous to them she wrote a play, called "*The Group*," which contained some forcible satire, and had a decided effect at the time. She was a sister of the great patriot, James Otis, which gave some eclat to her writings. She was a woman of genius, and a good writer.

Judge Dawes, at the close of the revolutionary war, wrote some fine poetical pieces, among which were "The Law given on Sinai," and "An Ode on the Death of James Otis."

Dr. Joseph Brown Ladd, who died in Charleston in 1786, in the twenty-second year of his age, was a fine poet. He wrote many things worthy of being preserved. His sister has lately gathered up all the pieces she could find from his pen, and published them in a neat volume. It does credit to her affection and his genius. It contains a short but elegant biographical notice of Ladd from the pen of William Chittenden, Esq., a tasteful and spirited writer of the city of New York. His prominent poems are, an "Ode to the Sun," and "The Appeal of Almasi, the wife of Almaz Ali Cawn, to Warren Hastings, governour-general of India." He wrote many other pieces, particularly a series of poems under the signature of Arnoret. These productions, and many of prose, from his pen, bear marks of genius, and of precocious acquirement.

John Blair Linn wrote poetry of no ordinary character. He was a lawyer, a dramatick writer, and then a divine. He wrote a poem on "the Death of Washington," "The Powers of Genius," and a play called "Bourville Castle." He died young, much respected.

Robert Treat Paine claims a high rank among the poets of his time. He wrote "The Invention of Letters;" "Adams and Liberty;" and "The Ruling Passion;" with occasional songs and odes; one, "the Steeds of Apollo," was his last, and in better taste than most of his other productions.

John Lathrop was contemporary with Paine. He was a poet of taste, but did not write much. His longest poem was entitled "*Canonicus*," published first in Calcutta, and reprinted in Boston.

Charles Prentiss was among the bards of that time. He had taste and versatility. His "Will," a playful poem, written while at College, gave him a high rank in the catalogue of wits and poets of the age.

William Boyd wrote a poem "on Woman," remarkable for delicacy and smoothness. It has been read by the fair ever since, if not with the highest admiration, certainly with great pleasure.

William Clifford, a young quaker of Philadelphia, burst out into a most courteous address to Gifford, praising him for his BAVIAD and MŒVIAD. He wrote some patriotick songs, which were quite famous in their time. What he wanted in the inspirations of the muse, if any thing was wanted, he made up in patriotism.

Paul Allen, Isaac Story, Captain Spence, and Selleck Osborne, were all poets, and some of them have been highly praised, and no doubt with propriety.

Some few who have written since, have gone to their long account, and of course we can speak of them as if they had not been our contemporaries. Some of them wrote beautifully, and their works should be preserved by the generations to come. It is easy for the just to secure what the envious would wish to destroy.

John G. C. Brainard, who died a few years since in Connecticut, was a man of talents and principle. The columns of the Hartford Courant bear testimony to his acquirements and taste. A friend of the deceased has gathered up his fugitive poems, and printed them with a delicate memoir of the poet. His temperament was sensitive and melancholy. He loved not the world, and was taken from it early, being only thirty-two years of age.

Robert C. Sands, who has lately descended to the tomb, at the same age, was a fine scholar, of exquisite taste, and devoted to literary pursuits. He was one of the authors of that fine poem, Ya-moy-den, which he wrote in company with young Eastburn, who died several years before Sands. His works are now preparing for publication by his friends. Some of his poetry, written when quite a boy, is not inferiour to the early productions of Henry Kirke White. Sands was one of the best classical scholars of our country, and his works will be read with pleasure, as containing many flights of a vigorous and fastidious muse.

We pass over the living poets, still with pen in hand, without comment, as the time has not come to do them justice, or to speak of them with freedom. Many of them have ac-

quired an enviable fame in the pursuits of literature—Bryant, Halleck, Dana, Sprague, Pierpont, Nack, Wetmore, Mrs. Sigourney, Miss Gould, Mrs. Ware, Mrs. Hale, Mrs. Child, Woodworth, Willis, and hundreds of others, who occasionally cultivate poetry as an amusement, but few or none of them as a profession. Our votaries of the muse are often discouraged from venturing on the wing, from watching the flights of the eagle geniuses across the water, forgetting that most of these writers make poetry the great business of their lives. Should some of our most gifted writers devote themselves assiduously to poetry, we might soon vie with England in poets as we have in orators. Life is too short for any one to attend to many things. Few American poets keep their pieces "nine years;" their productions often reach an annual, or some periodical, in as many hours; being things thrown off as occasion demands, or as caprice may inspire.

Divinity.—In 1793, Doctor Hopkins, a shrewd and deep metaphysician, published a system of divinity, which was the foundation of a new sect. He differed from Calvin in some things, pushing his doctrine even beyond the great reformer himself. This system had a host of opposers, many of them very learned men.

Doctor Timothy Dwight's system of divinity, published since his death, is the most voluminous in the country, is remarkable for clearness and fairness, and seems to be the most popular of all the theological works ever printed in the United States. The beauty of his life gave a charm to all matters from his pen. His doctrines are distinctly Calvanistick.

For several years, a spirited controversy was carried on between the orthodox and the Unitarian clergy, in which several gifted and learned men took part—Noah Worcester, Samuel Worcester, Mr. Stewart, Doctor Wood, and others, on the side of Calvanism; and Doctor Channing, Mr. Norton, Doctor Ware, Mr. Whitman, and others, on the Unitarian side. It was a "war of the giants," and they perhaps now only rest from their labours, neither being anouished. The reading public have derived much instruction from this collision of mighty minds.

Doctor Emmons has published several able discourses, which should be read by those who do not, as well as by those who do, agree with him in sentiment: Emmons belongs to the Edwards school of metaphysicians.

Doctor Freeman has published a volume of sermons. Those who do not follow his creed, must admire his liberal views, and his pure and elegant literature.

Joseph Buckminster's sermons, published since his death, have more of the charm of fine writing than any that ever have been published among us. If, as some have said, there is a want of evangelical divinity in them, even these criticks could not deny the fact, that there is an Apostolick purity running through them, which chains the heart to the memory of such a man, and fixes the attention to so sweet a writer. His Phi Beta Kappa oration is a splendid specimen of writing. His friend Thatcher wrote a memoir of his life. It was a description of a bright, particular star, that rose, culminated, and set for ever, while the magi were gazing at it

Others have written volumes of sermons, and almost every clergyman prints an occasional discourse; but as yet, few works on theology, written in the United States, have issued from the press. There are several theological periodicals that discover great learning and research. The Christian Examiner, published at Boston, is much read and admired by the Unitarians, and commands the respect of other sects for its chaste literature, gentlemanly courtesy, and high moral tone.

The Biblical Repository, published at Andover, in Massachusetts, is a quarterly work. It is learned, and every day rising in reputation. Andover Theological Institution met with much opposition in getting a charter. One of its advocates said, at that time, "no matter what creed they avow, give them an opportunity to become learned, and they will, in the end, be right, whether it be your creed or mine, or neither, they shall hereafter teach." The Christian Spectator, published quarterly, at New Haven, is one of the most acute and candid of all the reviews in the whol · country. We differ from ma-

ny, in thinking that the science of theology is yet in a crude state among us. We believe that it has received more attention than any other science, and is better understood. It is a science which can never be brought to any degree of perfection. That part of it which is founded on nature, is as well read as it ever will be in regard to a reverence of the Creator; and that which is founded on the faith once delivered to the saints, will, in a free country, for ever be construed by each one as he pleases. Between man and his God, there is a communion that no philosophy can long interrupt, and no false glare long delude. Man knows his responsibility; he feels it every hour, and if he is "taught to stray" for a season, he comes back with a due sense of his dependence, and of the necessity of forgiveness and mercy. There are several, it is said, who are deeply engaged in giving us true versions of the scriptures; we wish them success. It cannot be doubted, that it is not only the prerogative of man to be constantly reasoning upon his Maker, as well as his own being;—his benevolent God has so ordained it, and the creature should be in the discharge of his duty. Toleration, which our constitutions of government sanction and defend, can alone advance the nation in the service of theology.

Fiction.—As we have before remarked, the grave character of the people of the British colonies in this country, almost entirely precluded works of fiction. But among the first who ventured indirectly to break the spell, was a reverend divine, Doctor Belknap. He wrote the Foresters, a story made up to divulge some of his sentiments upon history, politicks, and manners, which he thought it was not prudent to express directly. This work was extensively read in every part of the United States, and much admired.

At the head of American novelists, is Charles Brockden Brown. He published several novels, viz. Wieland, Ormond, Arthur Mervyn, Edgar Huntly, Clara Howard, and Jane Talbot. They were admired by a few men of feeling and taste, but he was suffered to expire before they reached any prominent eminence. Since his death, they have been reprinted in this country and in England, and have received no small share of praise from able critics. No one who has read his works, will deny them the merit of striking incident and vivid description.

Mrs. Foster, soon after this, wrote "the Boarding School," and "the Coquette." The latter caused considerable excitement, as some of the principal characters were well known. These works had the merit of being written in good English, and the Coquette was a sad tale, too true to be called fiction.

Mrs. Rawson, who for many years was at the head of a school for young ladies, wrote, besides school books used in her institution, several novels—Charlotte Temple; the Sorrows of the Heart; Montoria, or the Young Lady's Friend; Sarah, or the Exemplary Wife; Reuben and Rachel; a sequel to Charlotte Temple; and several others. These were all read with avidity, for it was well understood that her English was good, and her motives pure. Charlotte Temple went through nearly twenty editions.

Since the novels of Walter Scott have been extensively known, several candidates for fame in this path have started forth; but no one has gained more celebrity than James Fennimore Cooper. His Spy, Pioneers, Red Rover, Last of the Mohicans, the Wept of Wishton-Wish, the Pilot, and others, have all been extensively read and much admired, not only in this country, but in England, France and Germany.

James K. Paulding has written several good novels and works of satire. His John Bull in America, made those for whom it was intended, feel severely. His Dutchman's Fire-side, and Westward Ho, have been very popular. He is a prompt and rapid writer. Having been one of the authors of the Salmagundi, placed him early on elevated ground.

Timothy Flint, of the Western country, has written a novel called Francis Berrian, that has been much admired, not only at the West, but also on the sea-board. He has devoted himself to literature, and deserves the generous patronage of that growing empire.

Miss Sedgwick is among the very

best writers in the United States; always sensible, correct, and moral. She sees clearly, and expresses forcibly what she means. Like Miss Edgeworth's works, her Redwood, Hope Leslie, and Clarence, will be read in future days with as much interest as they are at present.

Mrs. Child's Hobomok, Rebels, &c. have been justly praised, and by those who have taste and judgement.

Law.—For many years the press has teemed with reprints of law books; to many of them notes have been appended. The twelve thousand practising lawyers in the United States, are in general well provided with law books. Not only the laws of every state, but the reported decisions of most of their highest courts, are readily found in every city, town, or village. Some of the best scholars of the country have been engaged in multiplying books on the science of law. Books of pleadings, and practice have been published in almost every state in the union, and have afforded excellent guides to the practitioner. It would exceed our limits to name a tithe of them. A few who have engaged in great labours we will mention. Mr. Adams wrote an essay on Canon and Federal Law, which had a great reputation at the time. Nathan Dane was engaged for forty years in making an abridgment of the law, which he finished eight or ten years since, and published it in six large octavo volumes. He is considered one of the profoundest lawyers of the country.

Chancellor Kent's Commentaries on American law is considered by competent judges, to be one of the best works since Sir William Blackstone published his commentaries.

Judge Story's overflowing and excursive mind, has been busy upon almost every part of the law, from Constitutional Law to that of Bailments, Shipping, Bills of Exchange, &c. &c. The bar and the bench are deeply indebted to this indefatigable jurist, who has brought the mind of a statesman to the detail and principle of jurisprudence.

Louisiana is indebted to the late secretary of state for the United States, Edward Livingston, for arranging the civil code which is now in force in that state. By this code, every action is commenced by short petition or statement. The whole of the complex machinery of the common law is dispensed with, and the forms of special pleadings unknown in their courts. Mr. Livingston has been employed for several years in forming a code of criminal law. It is divided into a code of crimes and their punishments, a code of procedure, and a code for regulating Penitentiaries. The whole is a work of great labour, deep research, clear views of human nature, with a current of benevolence running through it, that has made it the admiration of the enlightened in every country. If the code is not in all its parts adopted, its spirit will, in time, pervade the criminal code of all civilized countries.

Medicine.—We have mentioned the physicians who were conspicuous previous to the revolution in another place. Since the peace of 1783, there has been more activity in the profession of medicine and surgery than in any other. This profession furnished several brave officers in the revolution, and many statesmen since; among them were, Brooks, Cobb, Mercer, St. Clair, Gadsden, Bricket, and many others. The first martyr in the cause of the revolution was Dr. Joseph Warren. His brother, Doctor John Warren, was surgeon-general of the northern army, and left the office to pursue his practice in Boston. The Medical School at Cambridge was got up under him, and a few others. Dexter, Waterhouse, and others, were his coadjutors in the cause. This was the second medical school established in the United States. Dr. Rush had devised a medical school in Philadelphia previous to this time, which may be considered the first in point of time, as it regards its foundation, and most assuredly has been second to none in its success in forming the medical mind in this country. The one in New York followed, and it has been honoured by distinguished professors. The classical Bard; the learned Mitchill; the tasteful, indefatigable and copious lecturers, and medical writers of a more modern day, Hosack, Francis, Smith, and many others—have added to the science of the healing art, besides exerting a fatherly care over science and letters in general. The medi-

cal school at Dartmouth College was the fourth in the country, has flourished ever since its commencement, and with its seniors, is every day enlarging its influence. Since that period many others have grown up, which have produced many distinguished professors of surgery and medicine. It is now difficult to succeed as a quack, except in some of the most ignorant parts of the country, and there they are often ferreted out.

Medical Journals are now before the publick as periodicals, which do honour to the talents and acquirements of their conductors and contributors; and it is not a little in favour of the profession, that the faculty are among the best friends of learning in the country. The fears that were once entertained, that the study of medicine and surgery lead to materialism, is now done away with; for it is now conceded that the studies connected with this profession, when fully carried out in the forms of physiology, pathology, and mental phenomena, are all proofs of infinite wisdom, and a divine superintendence. If fifty years ago there were few believers in this profession, it may now claim many of the most devout piety. It would be an invidious task to name those who have been distinguished, where all are so respectable.

The Arts and Sciences.—That our country abounds in inventive genius no one will question who takes a glance at the patent office. In the course of forty-three years, the length of time the patent office has been established, there have been more than seven thousand inventions recorded; and if you would say that there was much trash, it must, on the other hand, be agreed, that many things there have a claim to a high character in the Arts. Jacob Perkins invented many things which have saved the labour of many—his nail machine, and many others. Whitney's cotton gin, as was said by a learned judge, has doubled the value of every acre of land in North Carolina and Georgia. Whittemore's card-making machine was one that received from the strange man of Roanoke, an almost irreverent compliment, that it was "*like the love of God, which surpasses all understanding.*" The power looms of Stinson have been in use in every part of the country, and have saved labour to an almost incalculable extent. Look at the store-house of these models, and one could not say the inventive power of the nation has been idle.

In Mathematical science we have not been deficient; the American mind is naturally mathematical, certainly arithmetical. Many of our countrymen have been distinguished abroad for their advancement in this science. Nathaniel Bowditch, L.L.D., the author of several works on navigation, comets, and lastly, the translator and commentator of La Place, is at the head of our mathematicians. Professor Dean, Adrain, and many others, are conspicuous in this department of science. A higher knowledge of this science is now required at our colleges, and this branch is certainly much more attended to every where than formerly. It is found advantageous in the business of common life. No branch of knowledge is so easily acquired, with proper instruction, as this; yet no one gives its possessor more celebrity. Two years spent in acquiring the varieties of Greek literature would hardly advance a well bred scholar so as to be perceptible to his learned friend; but two years study in mathematicks would be very perceptible.

A slight view of our history will prove that we have been prolifick in painters, from Smybert down to the present time. West was born in the United States, but his faculties were developed in England.—Copley was a native of this country, and reached a degree of perfection in his art, before he left it, that would have made him one of the first portrait painters of any age. Hundreds of his portraits are preserved among us. Stewart returned to this country in the latter part of the last century, and for many years stood at the head of his profession, as a portrait painter. He has left numerous paintings to preserve his fame, and to show the extent of the power of his art in this line. Trumbull, the first historical painter of our country, still lives, and probably like West will die as it were with the pencil in his hand. He is as lively

as if in the noon-day of life. VANDERLYN, who gained laurels abroad, is now engaged on a likeness of Washington for the Hall of the House of Representatives, in the federal city. DUNLAP is engaged as usual in instructing those of the present generation, what those of a former one suffered. The new generation of painters, Morse, Cole, Frothingham, Inman, Leslie, and many others, are busy in their calling.—There is no danger that this branch of the Arts will deteriorate in their hands.

Some few in sculpture are becoming known; Auger's Mercury, and Jeptha and his daughter, with Greenough's chanting cherubs, have already gratified the tasteful in the art; and other works are soon expected from their hands. A taste for specimens of sculpture has been awakened in this country, and we trust patronage enough to support it will follow. The fine arts are of slow growth among a people who are engaged in building up their fortunes. Monuments to departed greatness are becoming common, and artists will find employment in this branch. The monuments lately erected to Kosciusko, at West Point; to Thomas Addis Emmet, in the city of New York; to Bishop Hobart in Trinity church; are proofs that sculpture is now held in estimation. What can be more delightful to a grateful people than these memorials of genius. They are the tribute of the living, which pass not suddenly away.

VOYAGES AND TRAVELS.—In this department we have some valuable works. Delano's Voyages, Riley's Narrative, Lewis and Clark's Expedition to the Sources of the Missouri, Pike's expedition to the sources of the Mississippi, Major Long's expedition to the Rocky Mountains, Keating's account of Long's travels; Doctor Dwight's travels in the United States, abounding in incident, and elegant description, and containing much valuable historical knowledge: Professor Silliman has published travels both at home and abroad; he is a chaste and careful writer, who sees all things with the eye of a philosopher. Flint has given us a good account of the western country, its manners, habits, and customs. Captain Benjamin Morrell has just published an account of four voyages to various parts of the world. His book abounds in incidents, contains much nautical information, and more poetical feeling than often falls to the lot of a hardy sailor. Mrs. Abby Jane Morrell, wife of the above named Captain Morrell, was with him in his last voyage to the Southern Pacifick, and has published her narrative. It is a curious work, and shows with what intensity a woman views every novelty. She is the first female voyager from the United States who has published a journal. Bigelow has given us a volume of travels in Europe, of deep interest: he saw things as a scholar should view them, and describes with great faithfulness.

Dr. Griscom's travels are full of instruction; he went out to see and describe, and all is done in purity and honesty. His principles were too firm to be led astray by false lights of philosophy, and he had no prejudices to indulge.

MISCELLANEOUS.—Under this head we might make a large volume without enumerating one half of those works more or less valuable; many of them of a high character. In philology, Noah Webster stands without a rival. He has spent a great part of a long life upon the subject, and if he is not without some errors and inconsistencies, they are more attributable to the nature of the science, than to the want of care, industry, or learning in him.

We are well stocked with school books, geographies, gazetteers, grammars of all sorts, and arithmeticks of all plans. In statistical works we are becoming rich. Several are labouring with assiduity in this department. The Gazetteer, by Edwin Williams, abounds in tabular information, as in other valuable matter.

In Rhetorick we have several elementary treatises, but no great work, except John Quincy Adams' Lectures on Rhetorick and Oratory, which is a work of genius and of bold opinions. He has been too much engaged in politicks those twenty years past to give them a finishing touch.

The Conversations Lexicon, printed in Philadelphia, and edited by Lieber, Wigglesworth, and Bradford, assisted, it is said, in some parts, by

Robert Walsh, has added much to the facilities of giving information on general topicks. Some of its biography, however short, is happy, and the articles in regard to the United States are written in a spirit of candour, and the information is generally drawn from good sources. This book will be extensively read, and find a prominent place in every village library. The plan is a good one, that of adding information respecting our own country to that brought from abroad, and giving, at a glance, a panoramick view of a subject. On this basis, we have treated the several parts of this work, "the Treasury of Knowledge," and on it we shall continue; our own country, always first in our affections, must not be forgotten, while we seize with avidity all that is useful from the old world. There should be a perpetual union in the republick of letters.

AMERICAN BIOGRAPHY.

AMERICAN BIOGRAPHY,

OR

ORIGINAL BIOGRAPHICAL SKETCHES OF

DISTINGUISHED AMERICANS,

BY

SAMUEL L. KNAPP.

We have looked over the fields of human life, and we have made reflections on the occurrings there—sometimes, perhaps, in no unlearned spirit, not seldom in a spirit which I do not fear to call religious, and always in a spirit of humanity—blaming none but the worthless, honouring the good, and celebrating the great; whatever tongues they speak, whatever clime they inhabit.

NOCTES AMBROSIANÆ.

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HENRY JONES,
In the Clerk's Office of the District Court of the United States, for the Southern District of New York.

DEDICATION.

TO DAVID HOSACK, M. D.L.L.D. F. R. S., &c. &c.

Dear Sir,—

This volume, of American Biography, which has cost me no small pains to present to the publick, I have taken the liberty to inscribe to you, who have taken so deep an interest in preserving the good and great of our country for posterity. In your career of professional pursuits, and scientifick researches, and in your indulgence of elegant literature, you have shown that the fame of others is as dear to you as your own, and have embalmed the names of many of your professional brethren, as well as those of several illustrious statesmen, as each retired from his useful labours and joined the congregations of the dead. The common grave-digger who commits the body to the dust, the mason and sculptor who cut and ornament the monuments of departed greatness, have rules and models to assist them, while, he who delineates character, must often catch the lineaments of his subject from visions called up either by blind affection or cold recollection, if he has not had some personal acquaintance with the being he describes. As you know the difficulties of this branch of writing as well as any one, you can best judge of the merits of such a volume. To your paternal care this attempt to do justice to departed worth is committed.

With profound respect,
I am your most obedient
servant,
SAMUEL L. KNAPP.

New York, November, 1833.

PREFACE.

THIS Volume of AMERICAN BIOGRAPHY, is intended as a sort of gallery of mental portraits, drawn as to length, not according to the station, or the office of the individual, nor according to the fame he might have acquired; but they have been sketched as opportunities offered for taking them, or inclination or circumstances prompted to the task. I have long felt a deep interest in all that relates to the proud history of my country, and the memory of the dead makes no small part of it.

Eras and epochs make but a slight impression on the mind, unless the actors in the scenes are made known to us, and mingled with events. In fact, the minds of certain individuals, under providence, make an epoch. In ancient days the deeds of Alexander and Cæsar, gave new impulses to man, and new destinies to nations. Their characters, with those of their contemporaries, should be subjects of continual study. In modern times it has not always been the case, that the high-born have given a character to the age in which they lived:—The entrance of Shakspeare, an obscure boy, into London, had more effect on the world than Alexander's entrance into Babylon. This event gave a new direction to literary taste. The character of Franklin made an impression upon the whole era of his protracted existence, which will be held in perpetual remembrance. Washington taught his country what could be done by sagacity, caution, energy, forbearance, and equanimity; he gave a name to the age in which he lived. Bonaparte and Pitt were the world while they struggled together. Fulton, by his application of steam to navigation, recreated that part of the world through which flow the great waters of the west. Whitney by his cotton-gin doubled the value of lands in the southern states. The history of such influences of individual exertion in this and other countries might be dwelt upon through a volume. Should not the lives of these men be made a study for the rising generation, as well as deeply contemplated by those men on the stage? Does not the youthful aspirant after knowledge gain more of the spirit of history from reading Plutarch's Lives than from all other books?

The characters of our great men, as well as those of antiquity, should be early made familiar to our youths. They should be held up to our admiration in every form of literature. The biographer should not servilely copy his predecessors;—he makes but a dull book if he does. He should study the character faithfully from all the light he can obtain, and draw from the images in his mind; then every likeness is in a degree an original, and beams with the spirit of the individual it was intended to portray.

Most biographical dictionaries have a sameness about them that makes them dull and tedious. The terms of censure are rarely used, and those of commendation soon exhausted, and then necessarily repeated. Characters follow each other in such a work, as grave-stones in a church-yard, with but little variety in their shape, size, or inscription: the slab, the pyramid, the urn, and stone with rounded top, mostly make up all the fashions of monuments for the memory of the dead, and "*sub hoc marmore, hic jacet,*" "*and here are deposited the mortal remains,*" with dates of birth and death, with now and then a rhyme more remarkable for its solemn stupidity, than for its taste, make up the whole literature of cemeteries. There are some exceptions to the rule; for instances may be pointed out when the exquisite hand of taste has chiselled the bust, and the pen of genius written the epitaph of departed greatness. He is a vile libeller who speaks of the dead with vindictiveness or malice, who cannot seek justice among men, but he is a coward who, from any superstitious fears, does not write with the freedom of a generous nature. The dead, are publick property, and should be used for the benefit of mankind.

In this book I have placed the names of those mentioned, in alphabetical order, for convenient reference, but I do not aspire to the dignity and honour of having written or compiled a biographical dictionary, and I have no hesitation in saying, that there are names not to be found in my pages as important as those that are there; but I have not time or opportunity to collect materials for writing them at present. Some distinguished characters I have not mentioned, because a full account of them has lately been given to the publick. The lives of Quincy, Morris, Jay, and William Livingston, are too happily written to be reduced to a few pages at once—and memoirs of Hamilton, Pickering and others are daily expected.

The productions of several of my friends will be found in this volume, for which they will be pleased to accept of my

sincere thanks; for their kind assistance has given variety and importance to the volume that it would not have had without them; a particular acknowledgement is attached to many articles furnished by them. I have made use now and then of books, which are also generally mentioned, when any thing has been copied. In professor John W. Francis, I have found not only a liberal contributor to the work, but a prudent adviser and friend at all times.

If any kind friend should ask why did not you write more before you published? The answer is at hand;—that this biography in one of its forms is to make a part of one of the volumes of the Treasury of Knowledge, and in that relation could not have been much extended; but may hereafter be, by way of appendix or some other form. The materials for biography can never fail; death, who destroys all things else that time creates, is every day furnishing a fresh harvest for the biographer.

I have called my book American Biography, meaning to extend the term to embrace those born in this country and who have laboured elsewhere, or those born in other countries who have done some good while they resided with us; and particularly those whose ashes rest in our soil. I trust that the reader of this volume, however strongly he may tax me with boldness, will never say that the writer was a narrow sectarian or a party bigot; or that he loved to censure rather than to praise. All I ask of those who may read my work, now or when I am beyond their criticisms, is to acknowledge my claim to the character of an honest, and indefatigable lamp-lighter in *the City of the Dead.*

It may be said that I have not stated my authorities for many things I have given to the publick. My answer to this objection is simply this;—I have not been unmindful of written authorities, having examined all I could find, and my means for information from books have not been scanty; but it has not been from books that I have derived most of the incident mentioned in these biographical sketches; it has been from living witnesses of events that I have drawn my information. From my earliest youth I took delight in conversing with the actors in the revolutionary struggle, both in the legislature and in the field, and I can safely say that there has not been a battle fought by our countrymen since the capture of Lewisburgh in 1745, to the present day, relative to which I have not examined some one, and often many, who were in the engagements. I have notes of conversations with more than one hundred persons who were in the battle of Bunker's-hill

and all the information is condensed in the life of Col. Prescott in a few pages. This one instance will represent many others. I do not dismiss my labours with "frigid indifference," but most certainly without any apprehensions of their fate; for I have spent more time in writing these sketches than I can justify, in consideration of other duties, to myself, my profession, or to my family; nor do I even expect a liberal remuneration; the labours of the historian and biographer are but poorly paid every where. I have received a greater pecuniary benefit from a work of the imagination, which cost me but six weeks' attention, than I can hope from this, which has absorbed years of my life. It is useless to repine; it is cowardly to fear. I say to this volume go, it will at least prove one thing—that the writer dared to say what he thought.

SAMUEL L. KNAPP.

New York, November, 1833.

AMERICAN BIOGRAPHY.

Abiel Abbot, D. D. was born at Andover, in Massachusetts, on the 17th of August, 1770. His father was a wealthy farmer, who was a descendant of the Abbots that were the first settlers of Andover, soon after the landing of Winthrop and his colony at Boston. The inhabitants of this place had, by the munificence of Samuel Phillips and his father, the best opportunities of educating their children that could be found in the country. Abbot was prepared for college by that excellent scholar, and severe disciplinarian, Eliphalet Pearson, afterward a professor of oriental languages at Harvard college, and who late in life occupied the chair of Biblical criticism at Andover Theological institution. At a very tender age Abbot was a fair classical scholar, and passed through college with distinction. On leaving Cambridge he was appointed an assistant teacher at Andover Academy, an excellent school for a young man who was preparing himself for the pulpit. The society was literary and religious, and even at that time the libraries to which he had access were pretty extensive. The clergyman of the parish—the Rev. Jonathan French, was a man of talents and social feeling, who had a vast fund of ecclesiastical anecdote to cheer the leisure hours of the student in divinity. Most, at that time, of the puritan church history was in parish records that had never been published, or in traditions handed down from one generation to another by clerical associations. In 1794, Mr. Abbot having closed his studies with Mr. French, was ordained as pastor of the first Congregational Church in Haverhill, within a few miles of his native town. He became at once a popular preacher. His person was delicate, his face was not strongly marked by bold features, but had a fine intellectual expression, and his voice was sweet and harmonious. His sermons were written with great care and delivered with effect. The religious could not tax him with a want of faith, and the tasteful admired the purity of his style. It was thought strange that the people of Boston, who required to have talent in their pulpits, at whatever expense, had not secured the services of Mr. Abbot—for whenever he preached in that metropolis crowds went to hear him. He modelled himself as a preacher upon the immortal rules of Polwhele—

> "First, to produce the pathos, fix
> Upon the great emotions of the soul
> The mental eye; and deem thy hearers moved
> By similar sensations. Thus the case
> Of others may be accurately drawn
> From thine assenting heart, that feels it true."

The directions for forming a style are equally happy—

> "Meantime thy style familiar, that alludes
> With pleasing retrospect to recent scenes,
> Shall interest every bosom. With the voice
> Of condescending gentleness, address
> Thy kindred people. Shun the distant air,
> The formal; shun the flippancy too smooth,
> The lightness too theatrical; the starts
> That waken for a while the listening ear,
> But waken to antipathy. Be warm,
> Yet grave; unite an animated soul
> With dignified demeanor."

The directions for the arrangement of topics are not less admirable—

> "Insist not, therefore, with a tedious length
> Of proofs external. The strong leading facts
> Concisely representing, quickly bring
> The internal evidence to light, that strikes
> Conviction, while it sinks into the heart.
> Faith is perhaps thy topic. Oh! beware
> Of many ambiguities, too dark
> For unlettered minds. Attempt not to premise
> The jarring tenets of innumerous sects;
> But in perspicuous enarration touch
> The important theme. Clear arguments may rise
> In short succession; yet the historic draught
> Shall occupy attention's steadfast soul.
> The weak apostle's unbelief; his doubts
> Quick into faith resolving; the despair
> Of tortured Judas, who in bitter shame—
> In the black writhing of remorse exclaim'd,
> 'I have betray'd the blood of innocence'—
> These are the potent instances sublime
> That best become thy subject and thyself;
> The bold examples that command belief;
> The judgment and the passions at a stroke

Convince and move; repel with wondrous force
The sceptic's rebel reason; and inform
The meanest intellect with instant light."

After preaching at Haverhill for eight years he became dissatisfied with his situation. The salary was not large enough to support his growing family, and in all probability, he felt that he had in a good degree outgrown his parish, although it is a most delightful village, exceeded by none in New England in beauty; while a considerable portion of his hearers were people of taste and intelligence, and all of respectability. To a man of mind, the spirit of genius working within him, to be confined for years to the same small circle of friends, to the same walls and to the same pulpit, has a bad effect upon his career of improvement; hence, it so often happens that young men of great promise are found of so little importance in later life. They grow indolent, rusty, and mannerists, until what beamed in morning glory once, sits in a common-place evening. Abbot felt all this, and panted for a wider field, and some other minds to travel over. He is a slave in the vineyard who has to write two sermons a week. He can have no more spirit than a pack-horse who is to travel thirty miles a day, without his bells. A council was called and he had an honorable dismission. He was soon afterwards settled in Beverly, a town on the seaboard, to supply the place of the Rev. Doctor McKean, who had been elected President of Bowdoin College. Here Doctor Abbot lived in peace and harmony the rest of his days. His literary ambition, perhaps, was always kept alive, but he found no time to indulge in the charming wanderings of general literature, for which he was eminently calculated. The system of theological instruction in the United States may, and perhaps is, the best for the people at large, but the worst for the mind of the clergyman. There must be an ascending series of duties to call forth the whole vigor of one's intellect. The Hierophant was obliged to go through various grades of discipline before he reached his exalted office or obtained the mastery of wisdom. In the English and Catholic churches there are several steps from crape to lawn, and much mental exertion; while in our Congregational churches the boy of 20 years of age reaches the day of his ordination the top of his honors and power, and then is called to labor in the path for life. To satisfy us of the subduing and paralyzing effects of this continued hard labor, we have only to consider how much one of these clergymen, blessed with a long life, has to perform. Take the case of Dr. William Symmes, of Andover, who died in 1807. He was a clergyman 55 years—settled in one parish for nearly half a century. He wrote over 4,500 sermons, of about 7,000 words each. The writer of this article once found this great divine burning his works, and remonstrated against the course he was pursuing. Had I been so situated that I could have spent my time in composing three hundred sermons only instead of this pile, then there might have been something worth preserving among them; but they are the labors of a man who was obliged to preach two sermons a week, and they bear the marks of this necessity upon them. These observations shadowed out a great doctrine, although it applied less forcibly to this great man than to most others, for he had a vigorous mind in a sound body, and had written with more pains and care than most men. Among his productions there were many worth preserving that he devoted to the flames.

Doctor Abbot lived a quiet life at Beverly, much respected by his congregation, until 1828, when he found his health impaired by his sedentary habits; but belonging to a long-lived race, no serious apprehensions were felt by his friends that his dissolution was near. A voyage was recommended to him, and he sailed for Cuba in February, 1828. He stayed in that delightful Island several months and thought himself quite recovered; but on his return he was taken sick, and died at Staten Island, New-York, with the yellow fever, June 7, 1829. His letters from Cuba were published after his death and were extensively read. He published several occasional sermons, and a volume of discourses to mariners, which have been very useful to that class of people, and which may be read with profit by any. All the productions

from his pen show that he was born for a fine Addisonian scholar; there were ease, grace, elegance, and often genius, in his literary labors. He was a thorough hater of controversial divinity, in which vortex half the ecclesiastical mind of the country had been most unfortunately absorbed. Two chivalrous divines in former days, like Cœur de Lion and Saladin, met, with mortal weapons of argument, on the arena of debate; —flames of intellect blazed from the fight; and then all was dark again; and the utmost that after ages could say of them, was, that

"They left a name at which the world grew pale,
To point a moral, or adorn a tale."

The pulpit is, unquestionably, the great school of the nation, but there are vast improvements to be made upon the system of conveying religious instruction to mankind.

Mr. Abbot never quarrelled with the dogmas of any sect, nor even admitted any one to interfere with his creed. Believing much, feeling much, hoping much, he persevered in doing, as well as believing; and while the man of faith could not quarrel with him, for he said nothing to offend, and the man of works could not find fault with him, for he uttered nothing that should oppose his creed, and acted with him in all the good deeds for which he contended. It is astonishing that so many have labored in their high vocation with such limited effect. This must be mended. More good must be done by the same effort; this is practicable—"*it is devoutly to be wished for.*" If "*he who acts must suffer, and he who thinks must mourn,*" it is more from the folly of man, than from the intention of heaven.

"Behold the ways
Of Heaven's eternal destiny to man,
Forever just, benevolent, and wise:
That Virtue's awful steps, howe'er pursued
By vexing Torture and intrusive Pain,
Should never be divided from her chaste,
Her fair attendant, Pleasure."

Samuel Abbot, a great benefactor of the theological institution in Andover, was a native of that town, but went to Boston in early life and became a trader, where he married the widow Kneeland, who was an importer of English goods, and a woman of great talents. They continued the business together and were prosperous. He returned soon after the revolution to enjoy his property in his native town. He had no children. Allen, in his Biographical Dictionary, is in error when he says that he left one son. His wife had a son by a former marriage, who is living at the present time, but Mr. Abbot died as he had lived, childless. He was a true descendant of the puritans, sharp in his bargains, severe in the exaction of his debts, careful in his savings, and scrupulously honest to every one. If it could not be said of him, that *his pity gave e'er charity began*, still he never withheld his share of charity when he believed it to be his duty to give. He out of choice meant to do all the good he could. He was a religious man, and had a high sense of duty. Once when a tithing man of Boston—an officer who has no other duties to perform, but to see that the laws for keeping the Sabbath were put in execution—he stopped Governor Hancock in the streets of Boston, who was going out to dine on Sunday, and made him return home. The Governor obeyed; but there is no doubt but that he found the way to his friend's house before the dinner was spoiled. He lived to a good old age and died at his house in Andover, April 30, 1812, aged 80 years. Perhaps no man with the same capacity, ever did more than he did, in making money, in keeping it, in using it, and finally in disposing of it for the benefit of the community. He was always kind and gentlemanly in his manners, loved society, and entertained his friends hospitably, at all times. He had a set of excellent maxims for business, pleasure, for the field, the school house, the town meeting, and for every place, and he used them without ever deviating from his fixed rules, and always used them well. His mind grew brighter as he grew older, and his dying speech is equal to that of any saint's or martyr's on record—"I desire to live," said the octogenarian, "if God has any thing more for me to do or to suffer." Several years before his death he gave to the theological institution a large sum of money to found a professorship, and at his death the bulk of his fortune was bequeathed for

advancing the interests of that highly respectable seminary. His life reversed the whole doctrine of the parable, for he made more of his one talent than others have done with ten, and has doubtless received the approbation of his master.

John Adams, second President of the United States. If the images and superscriptions of the great men of antiquity were stamped upon medals and coins to give future times an account of their existence, and their deeds, and this has been considered by all ages since, as extremely proper; ought not we to multiply brief histories of those who have assisted in building up our national character, and in founding those institutions which are the glory of the age in which we live? Gratitude, patriotism, and justice answer that we should. But few among the departed great, have done more for their country than John Adams. He was born at Braintree, now Quincy, on the 30th day of October, 1735. He descended from the pilgrims. His father was a man of plain good sense, and thinking that his son discovered marks of genius, put him at first to school in his native town to acquire a sufficient degree of knowledge of the classics to gain admission to Harvard college; of which institution he became a member in 1751, and graduated in regular course. He was distinguished among his contemporaries for those traits of character which were his through life, energy, directness, and perspicuity. No man can mistake his meaning. On leaving college he went to the town of Worcester to teach a school, and at the same time to study law, a common course in that day, and one that was followed long afterwards. He arrived there about the time of Braddock's defeat, which produced a great sensation throughout the Colonies. The people began to see how badly the mother country was managing the affairs of this, and politics were the common topics of the day. The student's mind was fired with the subject, and he reasoned in the spirit of prophesy upon it, but not until he had made himself acquainted with the minute history of the country, and could refer with readiness to all the occurrences as they happened in every colony. This study of our history gave Franklin and John Adams many advantages over all their compeers in the trying times of the revolution. In Worcester, he studied law with Samuel Putnam, a barrister of law, for then the English customs were in some measure preserved, as it regarded the bar, and the office of barrister was a creation of the court. He was not admitted in the county of Worcester, but repaired to Boston with letters of recommendation from Putnam to Jeremy Gridley, then at the head of the bar in Massachusetts, who introduced him to the court for admission; and gave him access to his library which was then one of the best in America, particularly rich in works on the civil law. Mr. Adams commenced the practice of his profession in his native town, and travelled the circuits with the court, and of course was well known to a large number of the substantial yeomanry of the country, as well as to the merchants of Boston. In 1766, he removed to Boston at the instigation of his old friend Gridley, whose labors were now drawing to a close, and which were finished the next year.

In 1770 he was engaged as counsel for the officers and soldiers employed in "the massacre" of March 5th, 1770. It was as bold in him, at that time a popular favorite, to have undertaken the task, as the manner of his conducting the defence was honorable to the profession, of which he was a member; and that he did discharge his duties and still retained his hold on the good opinion of his fellow citizens is a credit to him and to them.

He not only opposed Governor Hutchinson in his measures, as a member of the legislature, but he come out upon him, and upon the proceedings of the British ministry in the public prints; and these productions, although under a feigned name, were soon known to be from his pen. Few of that day could draw such a bow, or point an arrow with such unerring certainty. In 1774 he was sent from Massachusetts a delegate to the continental congress. He was distinguished at once, and looked up to as one made for the exigencies of the times. In 1775, when hostilities had begun in good earnest, and an army had al-

ready assembled near Boston, he took decided measures to have it organized, and nominated George Washington as generalissimo, to the astonishment of those who were governed by local feelings. The appointment was made, and Washington immediately joined the army. When Mr. Adams returned from congress, he took effective measures in Massachusetts to fit out a respectable marine for the state, and Washington taking upon himself the responsibility of issuing commissions in the name of congress, thirty-six vessels were captured from the enemy before the close of the year, which were laden with munitions of war, and articles which the army stood much in need of at that time.

In 1776 Mr. Adams was again at his post, and on the sixth of May offered a preliminary resolution to the declaration of independence, which was a recommendation to all the colonies to form state governments of their own, based on the happiness and safety of the people. This was soon followed by the resolution from Mr. Lee, of Virginia, declaring that the colonies ought to be free and independent. This was fully and ably discussed on the 8th and 10th of June. The further consideration of it was postponed until the first day of July, and on that day it passed, and a committee was chosen to prepare a declaration in pursuance of the resolution. Mr. Adams was one of this committee; but it was the good fortune of Mr. Jefferson to have been the author of that draft. Mr. Adams, it is said, had one prepared, but so satisfactory was Mr. Jefferson's, that no other draft was produced. In some future day we may know what he has written on the occasion. Mr. Jefferson always gave Mr. Adams the credit of being the ablest advocate of the measure. Mr. Adams was a member of every important committee while he remained in congress.

In February, 1778 Mr. Adams sailed for France, having been appointed a commissioner to supply the place of Silas Dean, who had been recalled. The treaty with France having been made before he reached the country, he returned in time to assist the people of his native state, in forming a constitution. The report which was accepted by the convention was from his pen, having undergone but few alterations in its passage. In 1780, he was appointed a commissioner to make a treaty with the States General of Holland, and to negotiate a loan for congress. He was successful. The part Mr. Adams took in regard to the treaty of peace of 1783, with Great Britain, is above all praise. He assumed a high responsibility in the act, which was every way worthy of himself.

In 1785 Mr. Adams was sent a minister plenipotentiary to the Court of St. James. He was the first of course from the United States, and his situation was a delicate one; but by showing the good sense of an honest man, the knowledge of a politician, and the manners of a gentleman, he secured the respect and affection of all classes of people in England, and gave offence to none at home.

In 1788 Mr. Adams requested permission to return home; this was granted, but he sought for no repose, he was in the prime of life and still ready to serve his country. He had been nominated with Washington as one of the candidates for the Presidency and Vice Presidency; then, the votes bore no designation; he who had the most was President, and the other was Vice President; but the intentions of the people were known—Washington was elected President and Mr. Adams, Vice President. In this office he continued eight years. It was no trifling affair to preside over the senate, as the constitution made it his duty to do, when there were no rules as yet established, and it was at that time almost treason to allude to the House of Lords for rules and orders, although the senate was in some measure made to represent that body. On several questions he was obliged to give the casting vote.

In 1797 Mr. Adams was, on the retiring of Washington, made President of the United States, which office he held only one term. It was a stormy time; the French revolution had just reached its highest point of settled delirium after some of the paroxysms of its fury had passed away. The people of the United States took sides, some approving, others deprecating the course pursued

by France. Mr. Adams wished to preserve a neutrality, but found this quite impossible. A navy was raised with surprising promptitude to prevent insolence and to chastise aggression. It had the desired effect, and France was taught that the Americans were friends in peace, but were not fearful of war when it could not be averted. When the historian shall come to this page of our history he will do justice to the sagacity, to the spirit, and to the integrity of Mr. Adams, and will find that he had more reasons and good ones for his conduct than his friends or enemies ever gave him.

In 1801 he retired to his paternal acres and passed his days in literary and scientific leisure. His mansion house was always open to all visitors who called on him to pay their civilities to a great man. There, they were entertained in elegant simplicity, with kindness without any parade or ostentation. It was delightful to see the sage talking and thinking of the world as if he were then a busy actor in it. His memory, always retentive, was remarkably accurate to the most protracted year of his life. The style of his conversation was strong, manly, and classical to the last. He spoke of the dead of all ages as though he had lived with them and become imbued with their precepts; and all this without any attempt to display his learning. If there was any thing he hated it was a silly pretender to superior talents, and the world is full of such;—they sometimes annoyed him, and his temper was not always under entire command; but no man could, and but few ever did display the honors of hospitality with more true kindness and polish than Mr. Adams. He loved his native land; he dearly loved his own Massachusetts, and she ought to be, and is proud of him as one of her distinguished sons.

In 1820 he was chosen by the town of Quincy, a member of a convention of Massachusetts, to revise the constitution, which, forty years before had came from his pen. He was elected president of that body, but he declined this honor, considering his advanced age, for he was now eighty-five; and Isaac Parker, chief justice of the commonwealth, was made the presiding officer. Old as he was, on one important question Mr. Adams made a speech, and it was a good one, clearly conveying precisely what he meant. On hearing this speech, short as it was, the accurate observer could have satisfactory proofs of what had been called the characteristics of his eloquence in days gone by,—*energy of thought and expression*. That sledge-hammer mode of striking at a subject, which was once pre-eminently his, is refreshing, after hearing all the prettiness of oratory, which like sweetmeats, soon produce satiety.

He was delighted with all he saw and heard in this convention; there was more mind in it than he expected to find, and higher acquirements than he anticipated, fond and partial as he was to his native state. He listened to the debates of the convention with the greatest attention and delight; for a race of first rate men had grown up, such as he wished to see, wise in the doctrines of constitutional law, and well acquainted with the history of their country. He found that their speeches were not wanting in learning, for precedent and illustration. The fire of youth illumined the eye of the patriarch when he heard the master spirits of that body, doing justice to the leaders of the revolution; fairly examining their deeds as matters of history, speaking with freedom upon all these topics which were so near and dear to him. "*Thank God that I have lived to be a witness of this day's debate*," was, at the close of a discussion upon some point that was ably treated, his emphatic exclamation.

Although he had been for twenty years out of public life, still he was always a public man. His early works had been read in every part of the world where freedom had a name, and his pen was not at rest while he was in retirement. He saw error abounding and he grew indignant, and strove to set things right and such was his honesty of character, that if some were not prepared to be convinced by his reasonings, all were satisfied with his facts These communications to the public will be read with more interest in a later period of our history than at present. They will be considered as those developments of minute cir-

cumstances that will be more wanted hereafter to elucidate some points of obscurity, than now, but at the present time they are acceptable. The language of an actor in the scenes he describes seems endued with life, if he entered into them with zeal, and in every thing leading to the revolution and of accomplishing it, Mr. Adams was himself a part, and a great one. Most other men began their opposition to the mother country from the course of conduct pursued by her within the ten or dozen years preceding the bursting of the storm at Lexington; it was not so with Mr. Adams, he had looked at all the events that had transpired from the landing of his forefathers, and saw in them a connected series that would, to a moral certainty, result in a struggle for independence. Most of his compatriots were for putting off the evil day, he was for meeting it while he was in the vigor of life, in order that he might sit down under his own vine and fig tree, in the cool of the evening of life, and enjoy peace and independence. He was fully aware of the price that was to be paid for this, and was willing to risk property and life on the chance of success. His honor, he felt, was safe, whatever might ensue; a halter and rack had no terrors for him, notwithstanding they made such fearful impressions on the imaginations of many who wished to act with him.

In looking at the nation, with a great and comprehensive mind, he did not forget that parts made up a whole. The welfare of his native state occupied no small share of his thoughts, and the town of his birth was never forgotten, as the whole course of his treatment of it shows. He extended to the people of Quincy his paternal care while living, and remembered them in his will also. He left no small portion of his moderate fortune to promote learning and religion where he first received the maternal precepts of duty and virtue, and they returned his solicitude with the fondest affection. They took a pride in having him among them, and were grateful to Heaven that his life was greatly protracted. When he passed the streets on a ride, or walk, as was his daily custom in warm weather, every one did him reverence; from the little urchin trudging his way to an infant school, to the aged who had known him when young, and rising to dignity and honors in his country's cause, and who were now wending their way with him to the grave. This was not a hollow courtesy, it was from the heart, a true homage of their high respect for a great man. He must have been virtuous, and great, who has his monument erected where his cradle was rocked, and the people of his birth place are delighted to come and read his epitaph. Before Mr. Adams was called to close his eyes on the things of time, his heart was made grateful to Heaven, for being permitted to see his son elevated to the office of chief magistrate of the American people. How gratifying to a father, must this circumstance have been, knowing as he did how well he had been prepared by education and principles for the situation. The patriarch was sustained by a kind providence, notwithstanding his advanced age, until the half century from the day of signing the declaration of independence had come, and then, in the midst of rejoicings, his spirit departed to join the congregation of the just. On the same day, a few hours before him, another signer of the declaration of independence had departed. Mr. Jefferson died at noon on the fourth of July, 1826. This was considered as a most wonderful event, and in every part of the United States eulogies were pronounced in commemmoration of the lives and deaths of these worthies of the revolution. The nation, as it were, gathered round their hearse, and listened to the strange events of the age in which these patriots lived, and to the account of the share that each took in the affairs of that day. Precious facts were brought out which might have been lost forever, if not noticed at such a time, which are now treasured up for the historian, who may soon take them for his page; for truly great men make a part of history before they leave this theatre of action. The day we trust is at hand when we shall begin to think the reputations of our distinguished men make a part of our national glory. The former ages of our history have only treasured up a few

facts concerning those who were men of importance in their generation. The friends of a great man refrained through modesty, as it was then called, from writing the life of their relation, and others after awhile did not think themselves sufficiently interested to make exertions to search for facts which the kindred of the deceased had suffered to pass away unnoticed. Mr. Jefferson's life has already appeared. It abounds in incident. It furnishes much to be remembered and some things to pass over in silence. The critical taste of some more distant descendant will expurgate some of the pages of this voluminous work, and then deliver it down to future generations. The life of Mr. Adams has not as yet appeared, but report says that it is in an advanced state for the press. From a careful perusal of these copious biographies of the great actors in the revolutionary struggle, the rising generations will have an opportunity of forming a correct judgement upon the whole subject.

Mr. Adams was a friend to education, good sound education, such as taxed the highest effort of the mind to acquire; not that miscellaneous course formed from reading newspapers, novels, and mushroom plays, but such as laid the foundation strong and deep. Attention to mathematics, the classics, history, and political economy, was strictly insisted on by him; not that he neglected the ornamental parts of education, but they were not cultivated to the exclusion of more solid matters. If his own could not be called a finished education, it was a robust one, it brought forth all the faculties of his mind, and taught them to act on all the business of life with energy and directness. He secured the Spartan firmness with as much of the Athenian polish as possible, but the first, according to his creed must at all events be secured. He was so determined to speak what he thought, that he was not always what the world called prudent. But there was such an honesty in all he said, that, on reflection, every one was satisfied with his candor and frankness, if at times they were a little disturbed at his freedom. He was ready to hail the improvements of the times, but would not suffer the old landmarks to be rudely removed. He regarded what had been as rather what should be revised, than destroyed; and the revolutions of the day as confirming rather than derogating the law already given. When some who had acted with him, were desirous of doing away with the common law he came out in defence of it, with all the lion-spirit that was within him; he had no Utopian notions, no sickly sentiments of duty. He felt like a man of strong passions, and reasoned like a man of a strong mind. His answer to a letter addressed him by the president of the peace society speaks out the character of the man. His only method of keeping peace was to wear a sword and to use it when occasion required.

The person of Mr. Adams was an index of his mind,—his frame was compact, sturdy, and above the ordinary size. His countenance beamed with intelligence, and moral as well as physical courage. His walk was firm and dignified to a late period of his life. There are several likenesses of him from the pencils of distinguished artists; probably the best, is from the hand of Stuart, taken after the subject had passed his ninetieth year. The picture from which most of the likenesses extant were taken, was painted while he was president of the United States, and is a very good one.

Samuel Adams, one of the earliest patriots of the revolution, was born in Boston, Mass., on the 22d of September, 1722. He was descended from one of the first settlers of the Province of Massachusetts Bay. He was educated at Harvard College and was of the class of 1740. He was educated for the Gospel ministry, and although he never entered into that profession, still he had an air of ecclesiastical solemnity in all his actions, which gave him great influence with his fellow citizens, who were a moral and religious people. He was a sturdy Republican from his youth, and preferred the discussion of political questions, to any other subject. When great events are about to transpire, Heaven seems to raise up spirits peculiarly fitted for the occasion. He seemed inclined to be conspicuous, rather in the halls of legislation, than in the pulpit or counting room. He tried

his pen as a political writer in his youth, and felt the weight of his country's wrongs on his shoulders, while others of his age, scarcely thought there were any evils to complain of. The zealous whigs supported him, and he labored with all his might to sustain them. The stamp act, and the imposition of duties on the necessaries of life, gave him ample topics for complaint, and he used them with great effect. He behaved with great spirit, and determination on the 5th of March, 1770, when the massacre was perpetrated in Boston. He was the organ of the people in insisting that the troops, which had been quartered upon the town, should be removed; and by his energy that purpose was effected. As a representative from Boston in the general court, he was a leader in all the measures of that body, against the Royal Government. When the continental Congress was called, he was sent a delegate from Massachusetts, and immediately took an active part in that body. He had been so long active in the cause of liberty, that he, with John Hancock, was exempted from the general pardon extended by executive clemency, as it was called, to all others who had been active in the cause of freedom. He saw with pleasure the drama open at Concord, because he thought he saw the triumphant close, when his nation would rise into power and prosperity. In 1776 he was foremost in the ranks of those who were desirous of an opportunity, at once, of making a declaration of Independence. On leaving Congress, he was constantly employed in his native state, in some high official capacity and was particularly active in framing the Constitution of Massachusetts, under which he was chosen Lieutenant Governor, and afterwards Chief Magistrate. His puritanical habits, his rigid tenets in religion, and his grave and solemn eloquence, united to unquestionable talents, gave him a high and commanding authority in his whole progress to political eminence. He was corporally and morally brave, and when his acquirements might have failed, his intrepidity secured him success. He was just such a man, as was wanted in such a place and at such a time. There was a simplicity in his demeanor, which in connection with his poverty, gave a cast of antiquity to his whole character. He enacted Phocion, while his coadjutor Hancock, assumed the splendor of Alcibiades, without his profligacy, and dazzled the eyes of his fond, and generous countrymen, and at the same time elicited admiration by his taste, and secured confidence by his liberality. In American history, Samuel Adams does, and will for ages fill a great space.

Fisher Ames, a man distinguished for talents and patriotism in one of the most momentous periods of our history, was the youngest son of Dr. Nathaniel Ames, of Dedham, in the Commonwealth of Massachusetts. Dr. Ames was not only a physician of eminence, but also a philosopher, mathematician, and patriot. He for many years published the best Almanack in New-England. This is now, after a lapse of three quarters of a century, a great scientific and literary curiosity. The numerous astronomical calculations were accurate; the remarks on husbandry and morals, interspersed in the work, were judicious; and in political economy, the writer was half a century before his contemporaries. In the number for 1745, he drew a picture of the thick coming glories of America, what was then, probably, thought a romantic vision to amuse his readers, but which is now admired for the accuracy of its traits and the faithfulness and beauty of its coloring. He knew the character of the people, and he reasoned deeply upon their destinies. In the fervor of his patriotic zeal, in 1762, he erected a pillar of stone on the highway near his mansion house, and surmounted it with a bust of the great Chatham. Time has destroyed the bust and thrown down the pillar, but the inscription still remains, and is easily decyphered by the curious traveller who stops for a moment to pay a tribute of gratitude to the patriotism of other days. This philosopher and patriot died in July, 1764, leaving a widow and five children. The subject of this memoir was then only six years of age. His mother was a woman of great energy of character, and by her industry and prudence, was enabled to give her darling child a liberal education. The boy was

the prodigy of the village; the kind neighbors thought that his father's mantle had descended upon him in his infancy—the school master joined in the belief, and the grave pastor of the parish saw even more than his father's intellectual glories kindling up in him. The good mother lived to see the widow's son wear the laurel of learning, and the civic wreath given to the benefactor of a nation, and lived too, to drop the scalding tear of age upon the premature grave of her beloved child. By the assistance of the school master, and the pastor of the parish, he was prepared for college when he was but little more than twelve years of age. Young as he was, he preserved his virtue and purity, and sustained a high reputation as a scholar while at the university. He graduated in 1774, at sixteen years of age, much too young to commence the study of the law, the profession on which his mind was bent. To fill up the years of juvenility, and to assist in supporting himself, he took a school and continued as an instructer for several years. At this time, and before, and since, such a course was common for some of our first young men on leaving college, and the very school which was taught by Ames, had been under the care of several young gentlemen, in succession, who afterwards filled the highest stations in the community—Chief Justice Cushing, General Joseph Warren, Governor Increase Sumner, and others, were instructers of the grammar school in Roxbury, which was one of the first established in Massachusetts, soon after the first settlement of our country. This occupation is calculated to give habits of circumspection and attention to youthful minds; and has a very beneficial effect on the future character of the professional man, if not continued too long. At this time Ames reviewed his classical studies, and indulged in the fascinations of general literature. This was doing well, for the usual avenues of business were then closed; and beside the school room and the pulpit—and these at that time were but scanty means for bread, there was nothing open for young ambition, but the army; to this course he did not incline. In 1778, he entered the office of the late honorable William Tudor, a gentleman of talents, of fine manners and amiable disposition, moving in the first circles of fashion and intellect, which connexion gave Ames an opportunity of becoming acquainted with the best minds in the state. He was admitted to the bar in 1781, and immediately commenced practice in his native town. In 1780 the Commonwealth of Massachusetts established their State Constitution, and Courts were opened and the payment of debts were again enforced by the rules of law. The collecting business went on briskly, for the harvest was large and the laborers were few. Every lawyer had as much as he could do. Many cases were litigated with great pertinacity, and as there were but few decisions of our former provincial courts that had been noted down with sufficient accuracy to become established precedents, there was then a more *glorious uncertainty in the law* than at the present day, when so many good decisions have been reported. Ames soon became distinguished as an advocate, for he was well grounded in general principles, and argued with great fluency and eloquence the cause of his client; but later years proved that the bar was not his field of fame. The dull might affect to think that he was not profound in his law; but good judges have declared that but few young men who came to the bar at that period knew so much of precedent or elementary principles, as Ames did. No; the difficulties in his path at the bar, were not want of talents or acquirements; they were the delicacy and quickness of his feelings, which made him shrink from every thing like trick or bad management in his client or opposing counsel. The hesitation or tergiversation of a witness would disturb him through a whole cause, and the moment he felt his side of the question was wrong, his good genius deserted him, and an evil one of gigantic proportions stalked before him, and named a future meeting, not at Phillippi, but in that very place where the jury should bring in a verdict. It was in the deliberative assembly where Ames was born to shine. This a sagacious public saw, and brought him into the convention

in 1788, called in Massachusetts to discuss the merits, and if acceptable to the members, to adopt the federal constitution. To put things in their right way required a herculean struggle. Ignorance was to be enlightened, error chased away, the corrodings of wounded pride to be assuaged, and the murmers of disappointed ambition stifled. Most of the master spirits in the convention saw the danger of a premature decision on the question, and protracted the debate in every form which ingenuity could devise. Gaining time was of great importance to the friends of the Union; they firmly believed that their opposers could not hold out long, and those who were teachable, would learn to do right, by having *line upon line, and precept upon precept*, and their anticipations were verified. Parsons, Orne, Strong, King, and others, were with Ames, and seniors to him, assisted in the great work. It would be idle to attempt to mark out precisely any individual's part of labor or honor in bringing about the adoption of the federal constitution All had enough to do, and all did well. The same year Ames was sent a representative from Dedham, and such then was the extent of his fame as an orator and a politician, that when the federal constitution was established, and put into operation, he was elected representative to congress, from Suffolk district, then including the town of Dedham. This was the more extraordinary as Boston contained many distinguished men senior to Ames, who would not have brought forward any cogent excuse to be relieved from that honor if it had been offered them at that time; but he rode over all the pretensions of his rivals on the irresistable current of popular favor. Much was expected of him in this new situation, and no one amongst his friends was disappointed in his hopes. He was only to be seen, to please, to be heard, to be admired, and only to be known to inspire confidence and love. His fervor, his honesty, his manly independence, as well as his eloquence, secured the permanency of his fame. He frequently in the House, joined in the skirmish as well as in the solemn war of words, and always came off with honor, if not with victory. The speech which raised his reputation to the highest pinnacle of renown, was on the appropriation bill, a simple resolve for carrying into effect the British treaty. From childhood I have heard this speech compared with the great specimens of ancient and modern oratory, and even now, after a lapse of almost thirty years, eulogy upon it from living tongues flows as fresh and balmy as it did the moment when the last accent of the speaker, on this memorable occasion, died upon the ear.

He attended congress only one session after this great effort, and when his time expired for the fourth congress, he declined being elected to the fifth. His health had for many years been feeble, and was now growing worse. On returning from political life, he intended to resume his practice at the bar, but he found this more difficult than he probably expected; his own nerves were no better braced for the rough parts of his profession, than they were eight years before; others too had grown up into the consideration and confidence of the public, and of course his services were not so much wanted; and after a struggle of a few years, in which he gained but little fame in his profession, he gave up the practice of the law altogether, and devoted himself to agriculture and books. In 1798, he consented to act in the executive council of Massachusetts; but this was rather as a compliment to his friend and neighbor Governor Sumner, for whose virtues and talents Ames had the highest respect and admiration. In the year 1800, he was selected by the public to deliver an eulogy on the death of Washington. On such a subject it was supposed he would pour out an irresistable tide of grief and lamentation, but it was not so; a more calm and connected piece of composition is not to be found in his works, than the oration on Washington, and for this reason, it has survived the extinction of countless labors of this sort. In 1804, Ames was elected President of Harvard College; but nature was too far exhausted in him, and he knew it, for such an undertaking. He now felt that the canker worm, which was deposited in the blossom, would soon

effect his work, and the fruit must fall; contrary to the fears of his friends, he lingered on for some time, and died on the fourth of July, 1808, of a consumption. His setting sun was serene as philosophy and religion could make it. He felt that it was early in the common course of life, for one so connected with the world, by his labors and sympathies, to leave it; but the man, his taste and judgement had singled out from all men that ever lived, as mere men, was Sir William Jones, and he died younger than the sick man then was. At the request of the citizens of Boston, his remains were brought into the metropolis, and his early friend Mr. Dexter, pronounced an eulogy on the occasion. Not since the death of Sumner and Washington, had there been so general a mourning throughout the Commonwealth. Even the rancor of party for a time was sacrificed at a patriot's tomb. Soon after his death, a collection of his works, such as could be readily found and identified, were published; but Ames' works, though full of fine sentiments, patriotic feelings, and beautiful figures, do not do entire justice to his fame and character. They were mostly written or delivered in the tremor of political anxiety, or in the hours of despondency and evil forebodings. Many of his productions, which had a high reputation for the day, were not written for posterity.

The time has arrived when we can speak of Fisher Ames, as one whose character no longer depends on the personal feelings of the living; we can, after the grass and wild weeds have waved over his ashes for more than twenty five years, see him, as he ought to be seen by the world, free from the shining robes of his apotheosis, with which his personal and political friends adorned him, at his death, and equally free from the gaping wounds made in the mantle of his fame, by bitter adversaries, when his tongue was silent, and his pen laid aside.

We can now approach him calmly, and examine with candor and impartiality, the services he has rendered his country, and the sacrifices he made to perform them, and can also measure the amount of his acquirements, and analyze the powers of his mind with fairness and discrimination. He was an elegant rather than a profound scholar. He was well read in geography, history and the government of nations, both in ancient and modern times. In polite literature, he was amongst the first of the age in which he was educated. In Biblical criticism, he was well informed, for one out of the profession of divinity; some of his readings of the Holy Scriptures had much of novelty, taste, and piety, in them. He measured and gauged our institutions, civil, political, and religious, to the depths of their foundations, and calculated what their altitude might be, if prosperity should attend us; and every particle of his learning, and every power of his understanding, were brought to illustrate and enforce his views upon these subjects.

The predominant qualities of his mind were easily discovered to be imagination—a felicitous power of combination—a quickness of thought and a readiness in forcibly applying his thoughts to the subject under consideration. These mental elements of eloquence were aided by physical properties, perhaps equally necessary to form the great orator; and all were under the influence of a lovely enthusiasm. Philosophers may reason forever on the properties of the mind, and after all, they will find there exists a mysterious communion between enthusiasm and futurity. No leaf was scattered from the cavern until the Sybil was shaken with the god. Prophecy and poetry were once of a kindred nature, and the connection is not destroyed. The visions of the seer which enter far into futurity, have often more of terror than hope in them; and it cannot be denied, that these images of terror hovered around the head of Ames, in every political vision he saw, and formed an ingredient in every prophecy which came from his tongue or pen. But it must not be forgotten, that he was born in the dawn of a political excitement, which continued, in various forms, through every hour of his life; and he drank deeply of the murmurs, the wailings, and the inquietudes of his country. In his childhood, he grieved at the solicitude of his parents and neighbors, for their impending fate. During his college life, he saw the storms gathering to burst on his na-

tive land, and he witnessed the first scene of blood in the drama of the revolution; nor had the horrors of war entirely passed away when he commenced his professional duties. When he entered political life, it was a time of deep distress—the country was not only smarting with her wounds, but was nearly fainting for loss of blood, and no one near to sustain her. When he was first harnessed for political warfare, anarchy had reared her head, and seemed far more dreadful than hostile armies. Soon after the exertions of our patriots to establish the federal constitution, the French revolution broke out. For a patriot then to think of repose, was in vain. Volumes of infernal smoke and fire extended across our political hemisphere, threatening to overthrow all the institutions of our country. Many, it is true, were aware of the danger, but Ames saw with dismay, that some of his fellow citizens who had acted patriotically, and fought bravely to establish our independence, were standing and gazing upon the baleful light, until they were growing stupid with astonishment, or becoming enamoured with the glare around them. This delusion of his countrymen struck to his soul, and he breathed his mental agonies in a hundred speeches, or threw his thoughts, all confused as they were, on the countless wings of public journals; and these fugitive thoughts are gathered and bundled up with others of scarcely a less deliberate character, and appear in his works; and many have carped at these productions, without looking at others from his pen, written with some degree of care, and which are less amenable to criticism. In most cases he wrote for immediate effect, and his ends were accomplished; but notwithstanding the haste in which many of his political numbers were written, who can pretend to say that they do not abound in "*gems of purest ray serene?*" Had these been skilfully set, and polished with care, they would have formed a wreath of beauty and immortality. In almost every thing which came from his mind, there are numerous *graces beyond the rules of art*, and some things, even whole essays, that but few would dare attempt to mend. There is an impress of genius on the very humblest of his labors, and indelible marks of learning, strength and wisdom, in his higher efforts; but on his eloquence will rest his great superiority to many of his contemporaries who were with him in public life. His eloquence was unique in his own country, formed on no model and governed by no scholastic rule. It was unlike the eloquence of Dexter, which was solemn, argumentative and slow, and whose warmth was created like that of the axis of the carriage wheel, on which is borne a ponderous piece of ordnance, rather by the weight of the burden, than the velocity of the motion; nor did it resemble the eloquence of Patrick Henry—the sudden transports of genius and passion which produced surprise as well as delight; but it was the overflowings of a tender heart and a prolific brain, aided by a melodious voice, and was equally fascinating in colloquy, anecdote or declamation.

If the champion who slew one monster in the land, was constituted a tutelar saint for his services, what honors should be decreed to him, who in early manhood, went out to contend in mortal combat, with dragons of every kind, and never unbuckled his armor, nor dropped the point of his sword, until the noon of life, when nature sunk exhausted by the conflicts?

Benedict Arnold, a Major General in the American army of the revolution, a native of Connecticut, was as brave a soldier as wore a sword; but his laurels were all tarnished by an act of treason against his country. In the autumn of 1775, he was sent up the Kennebeck, with a body of twelve or fifteen hundred men, to march from the head of navigation, through an uninhabited wilderness, to co-operate with Montgomery in taking Quebec. The expedition was unfortunate, but Arnold did all man could do in the cause. He was compelled to leave Canada, but his retreat was made in a soldierly and skilful manner. In the taking of Burgoyne, he gained new honor; he urged Gates to make the attack on the 7th of October, and on that day as well as on the 19th of the preceding month, he fought as a tiger. Like the Macedonian madman, he had great method in his fury.—Anecdotes

are told of his valor, worthy of the most heroic ages. After this, his extravagance and profligacy brought him to great straits, and he took such extortionary means to relieve himself, as brought on him the severest animadversions of the citizens, and the most cutting rebukes from the officers of the army, in consequence of which, he meditated a deep and lasting revenge. The noble mind of Washington was above suspicion, and he gave Arnold an important command, no less than that of West Point. Here he plotted his treason; and under the pretence that he had repented of the part he had taken in the contest, he opened a correspondence with an officer of the British army, and laid a plan to surrender to him the garrison at West Point. A train of fortuitous events frustrated this design, and Arnold fled to the British; from thence he issued a circular to vindicate himself and at the same time to persuade others to follow his example; but he effected neither. He was appointed Brigadier General in the British army, and was sent to ravage Virginia. On his return from this inglorious expedition, he went to New-London, his native county in Connecticut, and there carried fire and sword amongst his brethren, contrary to every law of honorable warfare. When his treason was first known, he was burnt in effigy in Philadelphia, and other places, and was stricken from the register of the United States army, by order of Congress; but time can never efface his name from the rolls of infamy; he will hang forever in effigy for the finger of scorn to point at, and a terror to those who are destitute of honor and patriotism.

Joel Barlow, a philosopher and a poet, was born at Reading in Connecticut in 1758, and received his education at Yale College; while quite young, he was distinguished for his taste in polite literature, and took at once a rank with Dwight, Hopkins, Humphrey, and other poets who had struck their youthful lyres in College Hall. He was an ardent patriot and before the close of the war, was a volunteer soldier, and chaplain in the American army. He wrote many orations and essays, in times when the hearts of his countrymen required to be warmed, or their minds to be enlightened. Soon as he saw our constitution in operation, he hastened to France, and became an active patriot in that country. He had, for some time, contemplated his great poem, and he finally published it in France, with the title of "The vision of Columbus," and dedicated the work to Louis 16th, but in the progress of the revolution in that country, he grew more and more liberal in his principles, and changing the name of his Epic, to that of Columbiad, he enlarged it, and dedicated it to the times. It is truly a work of genius, but it is much questioned whether he made it better by his emendations. While in France, he wrote some essays that had a great reputation at the time, particularly some addressed to privileged orders, which the nobility of any country would do well to read, at the present day. His prose is written in a chaste, neat style, and bears no mark of that vitiation of taste which is sometimes found in his poetry. Barlow was a favorite with Mr. Jefferson, who, when he came into power, appointed him Consul to Algiers, and afterwards a minister to France. Before he went out to France, Mr. Barlow had resided for some years in Washington, at which place about three miles from the capital, he built himself an elegant house on a picturesque spot, which he named Kalorama, and which is so called at the present time. Barlow died on his way to Wilna to meet Napoleon in 1812. His works were severely handled by the critics of his day, both in England, and in this country. He had offended many by his avowal of skepticism, in regard to the Christian religion after he had once been a minister at the altar, and his democracy was too thorough going for his old friends in America; but the future historian will say, that Barlow was a man of talents, of extensive acquirements, of an amiable disposition, and the critics of another age will forgive many things in his poem, that his contemporaries condemned. Several beautiful, and one superb edition of the Colombiad have been published in this country. The parts of this work, on the great principles of imagination or the gene-

ral doctrines of liberty, will never perish, but will give thrills of pleasure to freemen yet unborn, but those portions of his work written to catch the gaze of the passing hour, will secure no other immortality, but that which aris.s from their associations.

Bailey Bartlet was a native of Haverhill, in the county of Essex, and commonwealth of Massachusetts. He was a member of the first Congress, and was highly respected for the acuteness of his judgment, and suavity of his manners. He was sheriff of the county of Essex for nearly forty years—with the exception of a single year, when he was removed by party politics. He was the father of a large family, and was a pattern of domestic life.—He was a cool, quiet, calculating man; and preserved the even tenor of his way most admirably. He was a statesman, an agriculturalist, an inventor, and a grave philosopher. In his office as sheriff, he was so mild, so lenient, and gentlemanly, that he never violated a delicate feeling, by assuming a rigid authority—and strange as it may appear to the vulgar in power, he lost less than other sheriffs that were well known in the country, for unfeeling exactness in their business. He was as fearless, as quiet, and performed all his duties, as if he were not responsible for any thing. He was a man of an original cast of mind, and reasoned upon all things as if they were abstract principles. He performed his duties so gently that he made a friend of the culprit he incarcerated, or executed. That awful acerbity which almost always attend executive power, particularly among minor agents, was all lost when he appeared. He loved the social circle, and spent his evenings in the most hospitable and social manner. He had a large family of children, but he never seemed to be disturbed by any family arrangements; all went on smoothly, as if he had not a child to interfere with an hour of his business or comfort. A dozen children are often less trouble than one, who may be a petted spoiled baby. He was the Nestor of the courts for many years, and the judge, jurymen, and the bar were anxious, if he was an hour behind his time. He was full of anecdote; and although he made no parade of story-telling, his stories were always listened to with profound attention. If there were any patriotic proposition made, he was ready to support it—if any literary society wanted assistance, he was ready to aid it. In the darkest time he never desponded, in the most prosperous he never indulged in triumph. Equable and serene he saw all things through the medium of philosophy, and gave his own tone to those around him. He loved good living, but never was an epicure or a gormandizer. He spent the day as though he expected to live to-morrow, and as though that to-morrow to him might never come. He was a scientific horticulturalist, and partook of the rich fruits as one thankful that he was enjoying the results of his own labors, as one deserving of them; but he went on planting and pruning for others, equally happy in thinking that some other being, with good taste and good appetite might enjoy the fruit, if he did not live to do it. He felt no feverish appetites, and boasted of no extravagant enjoyments. He never complained of the weather, nor groaned at the result of an election. He rejoiced at the rising and at the going down of the sun; and never complained that the days were too short or too long. He met things as they came, making the best of them. Probably no being who ever came into existence, enjoyed more, in a quiet way, or ever suffered less. He was active or passive as the occasion required, and always just—and his opinions were, on most subjects, found to be worth regarding.—Such men differ much from the great mass of mankind, and often their merits are not, in this bustling world, properly estimated.

Joseph Bartlet's life was a singular one. The maxim "De mortuis nil nisi bonum," "*say nothing of the dead but what is good*," has wisely been changed to "De mortuis nil nisi verum." But even the truth should not be told at all times, if it casts a shadow over the grave; for the dead cannot defend themselves. It is far better that the pall of oblivion should be thrown over the errors of sinful man, than that they should be exposed, unless their exposition serve as a beacon and a warning to those who may come after us. To drag

into public, what was done in private, is wrong; but those who filled every act of the drama of life, as public men, who enacted every thing for notoriety and effect, and whose deeds had an influence on society, are fair subjects of examination, and animadversion. They must have expected this when living, and their friends cannot complain of it when they are gone. There are those who must be held out for us to shun, as well as those exhibited for us to imitate; detestation for vice is nearly allied to a love of virtue. As much may be learned from the reckless profligacy of Antony, as from the severe virtues of Cato; and from the life of Cæsar Borgia, as from that of Pius VII. In our young community, we have, in general, buried every thing in the grave; *and tread lightly over the ashes of the dead*, hardly daring to repeat the maxim, "No good man weeps when gifted villains die." But the welfare of society demands that this injudicious modesty be overruled; and truth, bold, distinct, and naked, when it can do good, should, unhesitatingly, be brought forth. It is absolutely idle, and in fact, next to ridiculous, to show a shrinking delicacy about one who never had exhibited any regard for himself or for others. It may be said that the living should be regarded, if the dead are not. This is right, to a certain extent; but not to a very great one. The innocent child should not be distressed by premature remarks upon his parents, nor the aged parent agonized by a display of the vices of the child. There should be discretion in all things; but the subject of this sketch died childless, and his parents are no more, and probably there is not one living to whom a full development of his character would give a pang; for if his profuseness made, for a while, any impressions upon the minds of the grateful, his duplicity and deceptions wiped them all away; and they can hear of him as of one for whom they had no regard, nor never knew.

Joseph Bartlet was born at Plymouth, the landing place of the Pilgrims, about 1763. His parents were highly respectable, among the moral and intelligent of that exemplary people. He was sent to Harvard College, and graduated in 1783. He had a highly respectable standing as a scholar in his class, as is, in some measure, proved by his being one of the three to whom the charter of the Phi Beta Kappa Society was sent by the Alpha, then existing at William and Mary College, Virginia, for the University of Cambridge. He early attained that wretched notoriety which has injured so many young men in college—the reputation for wit and eccentricity. The gay gather round such a man, to join in the amusement, and the grave and sober now and then relish a good thing from him; and it must be remembered, that the age in which he came forward, was not remarkable for its sobriety, or reverence for holy things. The country was indeed engaged, at that time, in a great struggle,—one on which hung the destinies of the nation; but any man acquainted with human nature, knows that great exertions of this kind produce every evil fruit in morals and manners. The elements of society were in a measure afloat, during the revolutionary war, and particularly at its close.

Bartlet left his Alma Mater the year of the peace, 1783; and every thing was in doubt and confusion. The brave were resting from their toils, thinking they had done their share of the great work; and were willing that others should commence their labors. At such a favorable moment for confusion, the demagogues who had been silent, when there was any danger, now raised their voices at every corner, and in every high place, to excite the turbulent against order and moderation. Bartlet issued from the halls of his college to join in the full cry of liberty and equality, with those who intended to profit by uproar and confusion. He was well calculated to assist in raising a whirlwind; but had not talents or disposition to aid in directing the storm. Bartlet was soon conspicuous among the vulgar and the riotous; for he had a ready elocution that caught the shallow, who were contented with any specious arguments, when it was in consent with their wishes. He was at such times more than a match for men more powerful in argument than himself, for his ready wit never failed him, when he found it in vain to reason; and in any contest he seldom failed to get the laugh on his side; and this is much in a dispute

now, and was more then. At this period of life he was an open infidel, and this was thought by some as being a mark of a great mind. The loose in principle wanted a witty leader, one who had the capacity of using profligate satire and indecent ribaldry in their cause, against the decent and pious. They had a man in Bartlet on whom they could rely. The religious had long been unaccustomed to be disturbed in their opinions; they had, it is true, quarrelled a little about points; but had seldom been assailed at all points; and they hardly knew what to make of it, when they were boldly attacked in their very citadel. The pious were alarmed at this course, and shuddered at his attempts to make shipwreck of their faith; while the free thinker enjoyed it, and made him a much greater man in point of intellect than he really was.

Soon after leaving college, he went to Salem, to study law; and in the mean time to teach a school. He could not have spent much time in this place, for he was not at all suited to that latitude. They are a quiet, thinking people in Salem, and were not prepared for such opinions. At this time, many of our young men were taking a voyage to England, and Bartlet thought he would go likewise; and without much preparation he set sail. This was, indeed, an adventure. He had no object in view, except to see if he could bring his wit and convivial talents to a market. In this he in a degree succeeded.

From the opulent Americans around him he obtained supplies for the present, and trusted to chance for the future.

One night when Bartlet was in the Theatre in London, a play was going on, in which his countrymen were ridiculed, I believe it is one of Gen. Burgoyne's plays; a number of rebels had been taken, and brought into the British camp; on the inquiry being made about their *occupations*, I believe the play says '*professions*,' before they became soldiers, the answer was, although many of them were officers, that they were of different callings; some were barbers, some tailors, some tinkers, &c. at this moment Bartlet rose from his seat in the pit, and cried, "Hurra! Great Britain beaten by barbers, tailors and tinkers!" The effect was wonderful. John Bull took it all in good part; and many of *the bloods of the day* introduced themselves to him: and he made the best of the occasion. Those who were pleased with his boldness, soon became enamored with his wit. He had no restraint upon moral, political, or religious grounds in saying any thing, and his manners were, when he chose, gentlemanly, and very fascinating; and he for a while was quite a lion in a certain circle; he was assuredly distinguished wherever he went. The bucks of London at that time supposed that Americans were savages, and were surprised to find one who had been *caught, tamed*, and in their view, somewhat *polished*. He was sought after and petted, and in *good faith* they found that he had seen, before they saw him—a hand of cards. He often boasted, that this time he had frequent meetings with Fox, and Sheridan, and is this unlikely? But Bartlet's maxim of "*carpe diem*," would not suffer him long to be even a fortunate gambler; he was too sensual, and luxurious for that; soon as his purse was full, the society of the table, took precedence of all others. He had no legitimate hold on society, but like the moss on the rock clung to it by siccity or saturation, until blown off, and therefore it is not wonderful that he should have found himself in prison after a season of drought and showers. Here he groaned and cursed awhile; but found that such a course did not do any good, and he set his wits to work to get out of confinement. For this purpose he wrote a play which has since perished with ten thousand others, but this was a novelty; a play from an American! This provided him a sum sufficient for his release. His former friends, he has often said, gave it a character it did not merit.

The particulars of this event he would never precisely acknowledge; but met every inquiry with his usual escape,—some facetious remark.

From London he set his face towards Edinburgh, and there under an assumed name went on the stage, and as Mr. Maitland, enacted several parts in genteel comedy; and if his own account of himself may be taken,

was quite successful. He prided himself in being at home in Belcour in the West Indian, and in all probability, at that time, he had some qualifications for the part. His histrionic career was not long; he was too fond of society to study enough to make an actor, if nature had fitted him through industry, to have become one. He soon grew tired with this way of life, and hastened back to London, after one season, and made an acquaintance with the mercantile classes, who were then in a rage to fill the United States with goods; and strange as it may seem by his specious representations, and their anxiety to sell, he procured a large credit. These were probably insured in London, and perhaps, the creditors did not suffer much, for the vessel in which Bartlet was returning with his goods, was cast away on Cape Cod, and was lost, with the bulk of her cargo.

There is an anecdote connected with this shipwreck quite characteristic of Bartlet. On the voyage he had been constantly descanting on his favorite topic, the theme of the French philosophers, "*the eternal sleep of the grave, and the recuperative force of matter*," and that he was ready to take up his march at a moment's warning; but when the vessel struck the shore, he discovered the most cowardly anxiety for his safety, and when asked what had become of his philosophy, and contempt of death? like Falstaff, he evaded the subject by saying "that it is not that I fear to die; but I should dislike to be found dead in such a dreary place, as the back of Cape Cod." There is nothing more amusing than to trace the selfishness of those of his school who preach disinterested benevolence. This patriot and champion for the new philosophy, took care to get to the shore as soon as possible, leaving the gentleman of old fashioned principles to assist the female passengers in making their escape.

On his arrival at Boston he formed a copartnership in business as a merchant, and again left his country for England. He again obtained a very considerable credit for his firm, which soon failed; but how much he was to blame in this I never could discover.

Tired with trade, he returned to his first intention of studying the law. While engaged in reading his profession, the insurrection of Daniel Shays and his party, took place, and the troops of the lower counties in Massachusetts, were ordered to march to suppress it. Reinforcements were soon wanting, and volunteer companies were raised in Boston and the vicinity, and Bartlet was chosen to command one of them. He told them so much of his prowess, that they thought him a great military chieftain. Captain Bobadil could not have said more of himself. He took up his line of march from Boston to Springfield; but two hours after he had left the town of Boston, he was ordered to return, for the insurrection was quelled and tranquillity established. On this news the captain of the train-band made a speech, regretting that he and his brave followers, had not had an opportunity of showing their courage; and closed his harangue by saying, that he had not the slightest doubt, that Shays had retreated on hearing that he was coming with his brave company.

On his admission to the bar he opened his office at a town called Woburn, within a dozen miles of Boston, and here began his career as a wit, a lawyer and a politician. Never was there a better demagogue. He harangued in the grog-shops, and at the town meetings; and at all times had the power of setting the mob in a roar; and sober men too, if within hearing, found him irresistible. His aim was first to attract attention and then assail his audience through the medium of their vanity, and then to direct them when they were excited, to a spirit of faction and misrule. As odd as Joe Bartlet, was soon a by-word. He had painted his house black, and called it "the coffin," and the passers-by stared, inquired, and wondered what sort of a man this Joe Bartlet could be. In a few years he moved to Cambridge, the half-shire of the county of Middlesex.

Here was a wider field for the display of his talents, than he had found in a small town; not that he expected or wished to associate with the literati of Harvard university. The faculty had no love for such a man; his politics, his religion, or rather his want of any religion; and all his

opinions, and habits were not to their taste; but he knew that he should gain popularity by annoying them, that is the only popularity with the only class of people he ever expected to secure, the profligate and lawless. By some management he got himself selected as poet for the anniversary celebration of the Phi Betta Kappa. In this production he indulged his spleen against some of the professors of that institution. This was, however severe, the best production of his pen that is extant. There is poetry, taste, and no little splendor in this work, however unjust or sarcastic it may be.

In all the domestic concerns of the college, he strove to have a part. At every quarter-day he watched the poets and the performances of every kind, and gave his biased and partial opinions to the world, through the medium of the press. This was indeed dreadful; for these candidates for fame imagined their own little world to be all the world; but the public newspaper taught them otherwise; and they found the critic was after them, before they had trusted themselves to the press. By these attacks on the quarterly performances, Bartlet often felt the resentment of the scholars, and had but few or none to support him; but he made mischief, and that was pleasant to him.

He invited a few of the scholars to his table, and kept a small party in his train, who drank his wine, and who were sure, while in his favor, that he would violate every thing like justice, to make them conspicuous. He joined in every little college feud, for the love of confusion and uproar. The town of Cambridge was agitated by party violence, and in the whirlwind he now and then was thrown up to public notice, and succeeded, more than once, in obtaining a seat in the House of Representatives in the general court; but he had no weight in that body; the materials of that assembly were not much affected by his wit, or in the least guided by his political opinions; still he enjoyed it; for his element was a rancorous opposition. At the Courts he was not more respected than in the Legislature; for he mixed himself up with his clients, who, in general, were harlots, rogues, and knaves, of every size and grade. He amused those he did not benefit; and spunged all by one piece of management or another; and this class often find means to pay counsel when they seem extremely poor. Such a man as Bartlet wears badly in any place; and he found his popularity, such as it was, declining: with the honest he had but little communion, and with the bad he was out of favor, for they found he had no weight with a jury; and often his reputation, and his client's together, ruined a pretty fair cause. It was time for him, to use his own expression, "*to see new faces.*" From Cambridge he removed to Saco, in the province, now state of Maine. In this place he began, with fresh vigor, the same course he had pursued at Cambridge, as to politics and law. He obtained credit sufficient to erect a good house, and seemed, for a while, flourishing, particularly in politics. He was sent a senator from the county of York, to the Legislature of Massachusetts. In this body he was courted for his own vote, perhaps, but never carried a single one by his arguments or his eloquence; but it is thought he assailed some propositions with success, by the force of his ridicule; but this more often deters the modest from doing good, than the bold from doing evil; but ridicule is no test of truth, at any time. The next year found him an unsuccessful candidate for the same office; but this did not discourage him; his patriotism burned so conspicuously, that his partizans put him in nomination for Congress, and he was so active with his pen and tongue in electioneering for himself, aided by his followers, that he run nearly equal with his opponent, having, at the close of the polls, within half a dozen votes as many as the successful candidate. Some of his political writings of that period had some pungency, and no little satire in them; yet they went to decay and oblivion with the autumnal leaves of the year; but at that time they were blown about and spread abroad, as thickly as the thistle down, over the fields and gardens, and gave considerable alarm to the sound and virtuous politicians of the day. The demagogue, a happy circumstance for morals, gives his breath to the winds, and its first influence is generally the

worst. Even the rancorous words of politicians committed to the periodical press are soon forgotten. Junius may be stated as an exception; but this only proves the rule. At this day the opinions of that great writer pass for nothing, and his malice would be condemned if it had not been embalmed in so felicitous a style; a style as full of genius as beauty. The folds of the serpent are preserved to accompany and account for the writhings, the agonies and griefs of the Laocoontes; but the very reptile which adds to the wonderful effect of the group would be turned from with instinctive disgust, if it had been chiselled out alone, or by an ordinary hand. By his imprudence and waywardness, he was at length broken up here, also. His power over the multitude was every day diminishing, and his chance of political advancement nearly gone, when he removed to Portsmouth, in New Hampshire. In this place he had some business, and some influence for a while, owing to the party spirit which then agitated the community; but the sagacious people of that town had formed a pretty just estimate of his character, and he made no progress in political life, and with difficulty found means to support himself as a citizen. His clients were of the same grade in New Hampshire as his clients had been in other places; but even this class of clients soon discovered that their advocate must have some standing in society to do any good in court; and they turn from such men as Bartlet, after some experience, to find men of influence to assist them. At this time he had depreciated as a man of talents, his stories had been told a hundred times, his flashes of wit were less frequent, and he often attempted to make up in scurrility what was wanting in acuteness. From day to day he grew more irregular in his habits, and more careless in his person, and of course he was neglected by many, who once from courtesy associated with him; and the good people of Portsmouth were heartily tired of him long before his departure from tne place; and at length hired him to go, by agreeing to take a certain number of tickets for some recitation which he proposed to give. This literary exhibition was beneath contempt, but secured him a handsome sum of money, for so slight a labor. Bartlet lingered in Portsmouth a while, until his money was nearly or quite exhausted, and then set out for Boston. Here he opened his office; but very few clients, however, found their way to it; and those few were miserable wretches, who came for a writ for an assault and battery, or some such grievous matter, and from whom he could only squeeze a few dollars. In this situation he became a tax to his friends, or rather on those who had known him in his early days, or had become acquainted with him in the various paths he trod in life; and such was the liberality of the community in which he lived, that the amount received by him, if it had been prudently expended, would have supported him in all the necessaries of life; but whoever knew such a man with a particle of even fore thought? His principal reliance was on the members of Suffolk bar, but others assisted freely, and particularly the benevolent Mrs. F****, whose husband kept a public house in the city. She was the most judicious of all those who gave him succor; and to her he was always obedient and respectful; and his regard for her judgment was the only proof, for a long while before he died, that he was not lost to every correct principle of conduct. Bartlet's case is not the only instance of her good sense and liberality to the unfortunate. Never was a more judicious philanthropist than this good woman, nor one that did so much with the same means; for she is as discriminating and prudent as she is charitable. For six or seven years Bartlet went on in this way, until he died in 1827; and his exit was a relief to all around him. The death of such a man gives no one the heart-ache, or causes a tear to be shed.

When we sum up the whole matter of the life of such a man, we find it amounts to little; no one has been made wiser, or happier by him; and his whole existence, with all its evils, does not furnish sufficient of incident or variety, *to point a moral or adorn a tale.* A wit is indeed "*a feather;*" and the smart things said any where, are echoed but once or twice, and then given to the winds. The wit of Bartlet was in general neat and taste-

ful; and if it had not been allied, like Voltaire's, to infidelity, it would have gained him more fame than it did. Some of his flashes of witty resentment showed so much of heartlessness, that the listener shuddered at the blasphemy, while he could not refrain from laughing, at the moment, at the singularity of it. What can there be so evanescent as wit? for although the writer of this brief sketch has heard many of his witticisms from Bartlet himself, and others, yet he has suffered them to pass from his memory, as the recollection of them would be productive of no good; but in justice it should be said, that Bartlet has never published any thing, with his name, that has an immoral tendency. His poem on physiognomy delivered before the Phi Betta Kappa, at Harvard university, was evidently intended as a satire on particular individuals, and like most satires contains many exaggerations; yet there is nothing in it offensive to morals, or manners, and considering the state of poetry at the time in which it was written, is a very fair poem in regard to the talents it discovers. It had something of his spiteful disposition in it, but none of that outrageous slander that he was every day breathing out in his intercourse with society. At a later period he wrote a book of aphorisms that are well enough, but the production cannot be said to have any great share of originality in it. After the proverbs of Solomon; Rochefaucauld, and those of the Spanish writers, down to Sancho Panza, there seems but little to glean in aphoristic literature.

In the writings attributed to him which appeared from time to time, twenty or thirty years ago, there was much of vituperation and false reasoning; but it is very seldom that truth is found in party accusation or defence, and he never had even a sense of decency to restrain him, to say nothing of principle. In his writings as well as in his conversation a most malicious spirit was evident when he was in the least offended. He raved at the rich because he felt his own poverty, he sneered at the prudent because he knew that he was destitute of all economy; he ridiculed the learned, for he was too indolent to store his mind with useful knowledge; and, like many, he affected to despise what he had not industry to obtain. He relied in middle life, and in old age on the acquirements of his youth, which were respectable, but the starved mind soon discovers its deficiencies and weakness. He that does not sow and reap in seed-time and harvest, and that on every season, will soon deal out straw and chaff for sheaves, and provender. As his head grew more empty his heart grew more rotten, for the time must be filled up with something; and when emulation ceases envy must come to fill every void of the heart. All the good, kind men did him, produced only a momentary impression, and his gratitude was a mere transcient matter of sunshine, while his resentments were rancorous and lasting. The heart and the head frequently become diseased together. In his times of distress he attempted to poise himself on his philosophy; but it was a shallow, cold, heartless, infidel philosophy, destitute of hope or enthusiasm, and which could only be supported by human pride. It was that bravery whose parent is cowardice, and which prefers the impulses of desperation to the dictates of a deliberate judgment, that gave the semblance of energy to any part of his conduct. The empire either of wit, or of any other power, mental, political, or adventitious soon passes away, unless the most strenuous exertions are made to maintain and extend it. The wit which once "set the table in a roar," loses its point by repetition, and the laugh, once so contagious that the gravest could not resist it, after awhile becomes "*stale, flat*, and *unprofitable*." Fashion is every thing, but fashion soon passes away, or rather changes her form, for she is truly eternal in spirit, and power; and the joke that was once racy and piquant, after awhile, becomes dull and ceases to attract attention, and the sentimental or national song, takes its place. Foot was sometimes tedious, and Sheridan maudlin, prosaic and intolerable; and they tired their companions even when their talents were brought to a better market than Bartlet could find in this country for his.

An imprudent man frequently under the appearance of carelessness and great liberality, is selfish and exclusive, and often attempts to put

down the claims of justice by an assumption of generosity; and the complaints of a large creditor, for his total loss, are drowned in the abundant thanks, and noisy gratitude of some recipient of a slight benefaction. There is no particle of resentment or malice in the remarks I have made on the subject of this memoir, nor any wish to keep his failings alive. The sketch was made to show the young the vanity of a reputation for wit, and the folly of struggling to be thought a genius, unless industry, and expanded feeling are allied to distinguished powers and happy gifts. Of Bartlet the world may speak freely, for his father has long since gone down with sorrow to the grave, and the wife of his youth was obliged to desert him when tenderness and affection had become strangers to his bosom; and he left no child to blush at his father's failings. If the dead, not claimed by relations or friends, may be taken by common consent to the theatre of the anatomist for the public good, surely the character of one whose life may serve to warn us of the dangers incident to our journey from youth to the grave, or teach us to shun the vices of society as we pass on, is common property for the moralist or sermonizer. If there was any thing in such a life to attract attention, there was nothing to secure respect. No mourner followed his hearse, no poet sung his dirge, and where rest his ashes no one will inquire. So pass away the profligate and the unprincipled.

Josiah Bartlet, one of the delegates from New Hampshire, who signed the Declaration of Independence, was born November, 1729, in the town of Amesbury, Essex county, Massachusetts. He was instructed in the rudiments of classical learning, under the care of a very distinguished clergyman of his native town, a man of distinguished talents, and extensive acquirements. Mr. Bartlet studied physic in the same place, and when ready to commence practice, moved to Kingston, in New Hampshire. Here he soon became known as a promising young man, but was particularly distinguished for combatting with stimulants instead of depletion, a new and malignant disease, called the Cynanche Maligna. Dr. Bartlet was soon hurried into the vortex of politics, was sent to the legislature, opposed royal officers and arbitrary measures; and what was still greater, he withstood the insinuating address, and flattering attentions, and munificent offers of John Wentworth, then chief Magistrate of the colony. Dr. Bartlet in 1775, was one of the committee of safety, was appointed a colonel of a regiment, and member of Congress. He fulfilled all his functions in a prudent, but fearless manner. He was the first who signed the Declaration of Independence, after John Hancock. He exerted himself in Congress for several years, and then coming home, was appointed Judge of the Court of Common Pleas, after which he was raised to the bench of the Supreme Court. He was a member of the convention in New Hampshire, called for the adoption of the federal constitution, and took an active part in bringing about this desired event. After this, he was President of the State of New Hampshire, and then Governor. He was a man of sagacity, probity, and moral courage, his fame was fairly won by his merits, and his reputation was supported by an honorable discharge of his duties He died in 1795, in the sixty-sixth year of his age.

John Bartram, a celebrated self-taught philosopher and botanist was born in the year 1701, near the village of Darby, in the county of Chester, Pennsylvania. His grandfather, John Bartram, came over with the adherents of the famous William Penn, in 1682. In very early life he manifested an ardent thirst for knowledge; but found few helps except from his own enterprise and intense application. He studied the learned languages with extraordinary success; and was so diligent in the pursuit of learning, that he seldom sat down to his meals without his book. He had an early inclination for the study of medicine and surgery, and acquired so much knowledge as to administer great relief to the indigent and distressed in his neighborhood; and as most of his medicines were drawn from the vegetable kingdom, this furnished him with an opportunity to prosecute the study of botany, which was his favorite object, together with natural history. Bred a husbandman, he cultivated the ground

as the means of supporting a large family; he prosecuted his avocations as a philosopher, being attentive to the economy of nature, and observing her most minute operations. He was the first American who conceived and carried into effect, the design of a botanic garden, for the cultivation of American vegetables as well as exotics, and of travelling for the acquisition of them. He purchased a plantation in a delightful situation on the banks of the Schuylkill, about five miles from Philadelphia, where he laid out, with his own hands, a large garden of six or seven acres; which he soon replenished with curious and beautiful plants, collected in his various excursions, as far as Canada to the north, and Florida to the south. Linnæus pronounced him to be the greatest natural botanist in the world. His progress in botany, natural history, and philosophy, attracted the notice and esteem of the principal literary characters in America, among whom were James Logan, Dr. Franklin, and Dr. Kennersley, of Philadelphia; Dr. Colden, of New-York, and Dr. Clayton, of Virginia; and introduced him to the correspondence and friendship of Peter Collinson, Esq., which continued for nearly fifty years, and terminated with life. Lord Petre, Dr. Dellerius, Sir Hans Sloane, Mr. Catesby, Dr. Fothergill, Dr. Hill, Gronovius Linnæus, Professor Kalm, Mr. Wrangle, &c. who furnished him with such books, philosophical apparatus, &c. as his genius and situation required, thereby lessening the difficulties, with which he had to struggle, in a newly settled country, and promoting the object which his benevolent mind contemplated, in communicating his discoveries, and collections to Europe. These communications occasioned him to be employed in collecting whatever was new and curious, to furnish and ornament the European gardens with the productions of the new world. He was elected fellow of many literary and scientific societies in Europe, as those of London, Edinburgh, Stockholm, &c. &c. At last he was appointed American botanist to his majesty George the Third, in which appointment he continued, till his death, in September, 1777, in the 76th year of his age. He employed much of his time in excursions through the provinces, then subject to England, chiefly in autumn, when his agricultural avocations least required his presence at home. The object of these journeys was to collect curious and nondescript vegetables, fossils, &c. His ardor in these pursuits was such, that at the age of 70 he made a journey in East Florida, to explore the natural productions of that country. His travels among the native Indians, were attended with much danger and difficulty; and the different parts of the country, from the shores of Lakes Ontario and Cayuga, to the source of the river St. Juan in East-Florida, contributed through his hands, to enrich and embellish the gardens and forests of Europe, with elegant flowering shrubs, plants, and useful as well as ornamental trees. He was an ingenious mechanic, several monuments of his skill still remain at the house in which he lived. These he built after quarrying the stones with his own hands, and he was often his own mason, carpenter, blacksmith, &c.—he also generally made his own farming utensils. He was an advocate for liberty, and for abolition of slavery. He emancipated an excellent young African, whom he had brought up, and who continued gratefully in his service, while he lived. Born and educated in the society of the Friends, he was a pious man. He left several children, John the youngest son succeeded him as proprietor of the first Botanic Garden. This is at present under the superintendence of another son, Mr. William Bartram, well known in the literary world for his Travels through East and West Florida, the Cherokee country, &c. who accompanied his father on many of his extensive botanical tours.

William Bently, D. D., a clergyman, politician, and newspaper editor, was born in Boston, and graduated at Harvard College, in 1777. He was for some time, a tutor in that seminary. After resigning this station, he was settled as pastor over a church in Salem. He had a wonderful faculty in acquiring languages, and knew something of many of the oriental languages, as well as of those of Europe. He never used an English Bible in his pulpit, but translated, as he preached from the original. He

was a devoted antiquarian and loved his historical researches as well as the humanities.

His eccentricities often made the staid and solemn, doubt the soundness of his faith, but no one ever doubted the benevolence of his heart. His library, which he gave at his death, to Alleghany and Harvard college, contained many choice works which he had collected while in Salem. His correspondence with the learned men of Europe, was very extensive, and they honored him with numerous marks of attention. He was one of the first who extolled the learning of the German divines, when it was considered almost heresy, to speak of them in this country, but he lived to see his opinion of German scholarship, the prevailing one in Europe before the present glories of the German school shone among us. His own parishioners were partial to him as a sermonizer, but he was not popular with the clergy of New-England. The summary which he prepared during many years, for the Essex Register, was a singular labor, but certainly evinced various reading, and sometimes extensive learning. He lived a bachelor. He died suddenly at Salem, in 1821, leaving by will a considerable part of his extensive library to a college in Pennsylvania.

John Buckenhout, M. D., was the son of a respectable Dutch merchant, established at Leeds, England. He was born in 1730. The Baron Beelfeldt, a relation, procured him admission as a cadet, into the Prussian service, where he gradually rose to a Captaincy. Afterwards, a war breaking out between England and France, he entered the English army as a Captain. The peace took place in 1762, when he went to Edinburgh, and assumed the study of medicine, but finished his pupilage at Leyden, where he was graduated as doctor in 1765, and published a thesis de podagna. He afterwards returned to England, and published Tharmacopia Medica, which has several times been reprinted. He was sent to America, 1778, as one of the Commissioners with Sir William Johnston, and Mr. Eden, (Lord Auckland) to effect a pacification with Congress. He was the only one of the Commission who was permitted to visit Philadelphia, where the Congress was in session. He spent some time there, but being suspected of holding improper intercouse with some disaffected inhabitants, he was commanded to return to New York. The object of the mission was entirely frustrated. The detestable principle by which they hoped to obtain its accomplishment, was exposed and became a new cause of resentment with the Americans. This was the principle of corrupting all who had influence to command in the country. The reply of Mr. Read, who was attempted with an offer of 10,000*l*, and the best office in the gift of the crown in America, ought never to be forgotten. "I am not worth purchasing, but such as I am, the king of Great Britain is not rich enough to do it." In 1770, Dr. Buckenhout published "Outlines of the Natural History of Great Britain and Ireland." In 1788, "First lines of the theory and practice of Philosophical Chemistry." He likewise published several other works, and died on the 3d April, 1791.

Nicholas Biddle, a naval hero of the American revolution, remarkable for his gallant actions and his untimely fate, was born in Philadelphia, in the year 1750. He commenced a sea-faring life at a very youthful age, and experienced many hardships in his course, by hunger and shipwreck —at twenty years of age, he entered the British navy as a midshipman, and soon became an excellent sailor. He was in the exploring expedition of 1773, which was sent to find a northwest passage.—His love of adventure, induced him to enter on shipboard as a seaman before the mast. In this humble capacity, he distinguished himself for activity and intelligence. On the first appearance of a war with England, Mr. Biddle hastened home to take a part in the service of his country, should his efforts be wanted. His course of adventure had been marked by his friends in Philadelphia, and he was not long waiting for employment. He was appointed to the command of a galley fitted out for the defence of the Delaware. From this command he was appointed to the Andrew Doria one of Hopkins' fleet. She carried 14 guns and 140 men and boys. Hopkins sailed to attack New Providence on the very day a

contagious sickness broke out on board the ship, and Capt. Biddle, in treating the disorder, and in his attention to the sick, exhibited so much moral bravery and goodness of heart, that the poor seamen never forgot him, his name is in their mouths down to this day. There are heroes of benevolence, as well as of the battle field. Capt. Biddle after cruising in the Andrew Doria, for some time with great success, was promoted to the command of a frigate, the Randolph of 32 guns. In her he sailed from Philadelphia in the winter of 1777, she met with several accidents soon after she got to sea, in consequence of which she went into Charleston to refit: this was soon done, under the direction of so resolute a commander. In a few days after the Randolph sailed from Charleston, she took four English vessels, one of them carrying twenty guns, the manoeuvring of this exploit, it is said by sailors exceeded any thing on record. Captain Biddle was a skilful master in a good ship. South-Carolina, roused by the success of Captain Biddle, fitted out an expedition of four vessels of war, one ship and three brigs, in the best manner they could, on short notice, and put them under the command of Captain Biddle, who had been refitting the Randolph, in the port of Charleston.—The sailors and soldiers of that spirited people, were anxious to share in the new honor, which they believed awaited the new commander. A considerable body of marines was sent in the several vessels, fifty of them well officered, were attached to the Randolph. A British fleet had been cruising off Charleston, for several weeks past, when Commodore Biddle sailed with his squadron. His object was to offer them battle, but they had left the coast several days previous. The American squadron then sailed for the West Indies, but did not meet with much success; for now, almost every English merchant vessel, sailed under convoy. The harvest of the ocean had been reaped in the preceding years; hard fighting was the work that was left, glory only was to be gained. On the afternoon of the seventh of March, 1778, when a sail was discovered, and the squadron made an effort to speak to her, and about 8 o'clock in the evening, the Randolph brought her to action. Captain Biddle had no suspicion that she was a double decker, until she commenced firing, when he found that he was contending with a sixty-four gun ship, Captain Biddle at the commencement of the action, received a wound. He however did not leave the deck, but kept up a most spirited fire upon the enemy. The action had continued for nearly half an hour, when the Randolph blew up. She was well manned, and all of her crew but four were lost. The other American vessels escaped, as the British ship, the Yarmouth, was too badly crippled to make a close chase. How the accident happened, could not be known, the men saved could say no more, than that Captain Biddle was on the deck, and the surgeon was dressing his wounds, when the catastrophe happened. Biddle was a very careful officer, and every precaution had been taken, to prevent accidents, probably he was not himself apprized of the cause of the disaster. The loss of so many men, and such men as these, was a grievous matter, but the death of Captain Biddle was lamented as a national calamity. He was in the prime of life, indeed, a very young man, to have had the honor of commanding such a squadron, being only about twenty-seven years of age. There was no prospect at that time, that the war was coming to a close, and our naval conflicts were becoming every day more severe—England began to find what sort of men she had to contend with, and prepared herself for the fight. The fame of this brave mariner, should be united in naval history, with the glory of him in later days of the Nile and of Traffalgar. Biddle only wanted opportunity, to become as great as Nelson. The latter died in the arms of victory, and the former was snatched from an unequal contest, by a kind providence in "the *chariot and horses of fire*," ordered for his departure.

Joshua Brackett, M. D. This distinguished physician received his birth at Greenland, New-Hampshire, in May, 1733. He was educated at Harvard College, and obtained its honors, 1752. It was the wish of his parents that he should settle in the ministry, and, in accordance with

their request, he entered upon the study of theology. But when he began to preach, it was found that the labor of public speaking did not comport with the delicacy of his health, and constitution, in consequence of which he relinquished that profession, for the more active one of physic. He studied medicine with Dr. Clement Jackson of Portsmouth, which town he selected as the theatre of his future usefulness, and where he closed his valuable labors, July 17, 1802. In 1791, the New-Hampshire medical society was established. He was not only one of the original fellows, but took a distinguished part in the preliminary measures, designed to usher it respectably before the world, advocated its concerns with zeal, and generously advanced money for the purchase of medical books to establish a library, which continued afterward to be supported entirely by his munificience, until his death. In 1793, the late Gov. Bartlett having resigned the office of President of the society, Dr. Brackett was elevated to the vacant chair. In this responsible station, he fulfilled all his duties with fidelity and zeal; ever displaying a lively interest in the honor, utility and growing importance of the institution, till compelled by the infirmities of declining health to resign it, in 1799.

Dr. Brackett, during the last 30 years of his life, was seriously impressed with the advantages that might arise to his country, and reputation to his Alma Mater, by establishing at that ancient seminary of learning, a professorship of natural history and botany. Subscriptions for that purpose were made a short time previous to his death, and he directed the sum of $1,500 for the same purpose, to be paid out of his estate after the death of his widow, to which in her will she joined an additional legacy. These honorable instances of a munificent spirit, discover a heart susceptible of sympathizing with his fellow beings in all their afflictions. It is no wonder therefore that in his patriotism he was ardent; and prompt in all the duties of the stations, which in the course of the revolutionary contest, he was called upon to occupy. As a member of the committee of safety, he displayed vigilance and firmness; and as a judge of the maritime court in New-Hampshire, he was dignified without arrogance. In his profession he was not only diligent in attending upon his numerous patients, perusing the great number of excellent works, through which the principles of just theory and practices are diffused; but he entered upon them with an ardor and delight, apportioned in some degree, to the high importance of their ultimate object. He had a fondness for medicine, as a profession, calculated to improve and enlighten the mind, to give higher views of the great Artificer of our frames, and of all his wonders in the creation: he loved mankind, because he viewed all men as members of the same universal family; and realizing the magnitude of his obligations. While the health of his patients, and the happiness of their families were entrusted to his hands, he spared no industry and remitted no reflection, which might contribute to a successful termination of their complaints He took notes of all important cases, by which he was benefitted in after life, as he himself declared. His general practice was marked with skill and success, but in obstetrics, where he stood almost without a rival, it was his uncommon fortune, in a practice of many years, never to have lost a patient. In 1792 he was honored by his Alma Mater, with an honory degree of Doctor in medicine. In his temper, Dr. Brackett was cheerful; in his friendships, warm and sincere; his deportment, was modest and unassuming, and his manners, of that amiable and engaging character, which rather allures, than enforces admiration. A spirit of benevolence animated all his endearing qualities, and adorned all his commanding virtues.

John Brooks was born in Medford, Massachusetts, in the year 1752. His father, Capt. Caleb Brooks, was a respectable farmer, much esteemed and beloved by his friends and neighbors. His mother was a woman of superior personal charms, and of remarkable talents, for one of her advantages and station in life. She early discovered in her son those faculties which were destined to raise him from the plough to the first stations in society, and was solicitous

to place him where he might cultivate them to advantage. We are probably much indebted to this excellent woman for the estimable traits of character displayed in the son. Character is formed at an earlier period of life than is generally supposed. The impressions made on the tender mind in the nursery, and the habits acquired there, have a permanent influence through life. Our matrons give the first and most important impress of our moralists, our statesmen and our heroes. Happy is the lot of those who have mothers of that superior excellence which rises above the vain show and glitter of life, whose pleasures centre in the care of their offspring, in forming their habits and in directing their minds to elevated sentiments and noble objects, whose greatest pride is in those splendid ornaments, the virtues displayed by their children.

Mrs. Brooks had an excellent friend in her physician, Dr. Simon Tufts, at that time a very respectable practitioner in Medford. His high standing in our profession is evinced, by his being enrolled in the list of our members previously to the present organization of the society; when its number was limited to seventy, and none were elected fellows, but those who were the most distinguished practitioners in the state. Dr. Tufts observed the anxiety of the mother to elevate her son to a superior station in life, and encouraged her to give him as good an education as their finances would permit. He was accordingly placed at the town school, where he was taught the rudiments of science, and the Latin and Greek languages. Such was his proficiency in his scholastic studies, and so amiable and exemplary was his character, that he secured the friendship of Dr. Tufts, who took him into his family at the age of 14, to educate him for his profession. The skill and science of the instructer, and the indefatigable attention of the pupil, supplied the deficiencies arising from the want of a liberal education. His progress in medical science, and in judicious practical observation, was such as to secure the confidence and respect of his master.

During his pupilage, the amiable traits of his character were more fully developed, and he began to display that talent and fondness for military discipline, which were eminently manifested at a subsequent period, and contributed to establish that erect and manly port for which he was so remarkably distinguished. In the hours of relaxation from study, he amused himself with the drill and exercise of the soldier. His manners were so gentle and attractive, that he was the delight of all the village boys; they collected about him as the chief source of their pleasures and amusements; he formed them into a company, and trained and exercised them in all the duties of military discipline. Dr. Tufts' yard was often converted into a train-field, and displayed in miniature all "the pomp and circumstance of glorious war." These juvenile scenes are still recurred to with pleasure, by those who were engaged in them, as the happiest moments of their lives.

He continued until he was 21 years old, under the tuition of Dr. Tufts who then advised him to commence the practice of physic in the town of Reading, and gave him a high recommendation to the people, as well qualified for the important trust, and worthy of their fullest confidence. He accordingly settled there, and was soon after married, and his prospects were fair for a very respectable establishment in his profession; but he was destined to act a more conspicuous part in the great drama of life.

The storm which had been a long time gathering in our political horizon, began now to assume a most portentous aspect, ready to burst over the country with destructive fury. The stout hearts and steady minds of our countrymen had been preparing for the shock, resolved to defend themselves against its tremendous power. The busy hum of warlike preparation was heard through the country. Companies were formed in almost every town, who held themselves in readiness to march at a minute's warning. One of these companies was raised in Reading, and Brooks was elected to command it. He gave all the attention he could to this company, consistently with his professional duties; and was active in his exertions to drill his men, and infuse into them that heroic spirit and ardent patriotism which animated his own breast.

He was, however, much perplexed to determine what course he ought to pursue in this momentous crisis. He had a strong attachment to his profession, and was deeply impressed with the moral obligations he was under, to discharge the duties of it with fidelity. The kindly affections of his heart, and the amenity of his manners, qualified him to administer relief with peculiar acceptance, and gave the fullest promise of a skilful and popular physician. He had just entered into practice with flattering prospects, and with all the ardor of a youthful mind. He had already many patients afflicted with severe disease. Judge then, with what reluctance he listened to the calls of patriotism, urging him to relinquish these prospects and duties, to engage in a contest fraught with the most appalling dangers to himself and to his country. On the other hand, he had displayed such talents as a military disciplinarian, and was so esteemed and beloved by those who were under his command, and by all who were connected with him in military duty, that he was thought the most competent to take the lead in their affairs. In the organization of a regiment, he was elected a major. This honor he declined, from an apprehension that it might call him too much from professional duties, and involve him too far in the military and political movements of the times; so that he would finally be under the necessity of relinquishing his profession; an event which he was anxiously desirous to avoid. His fellow officers would not accept his resignation, and unanimously repeated their solicitations that he would assume the duties of an office which he was so well qualified to sustain. This flattering distinction was enough to shake his resolution. He again took the subject into serious consideration, and the same objections presented themselves to his mind. He then determined to meet his brother officers, and absolutely decline the honors they were disposed to thrust upon him.

He was thus situated, on the memorable 19th of April, 1775, when the news arrived that a detachment of the British army had marched to Lexington and Concord. His ardent patriotism then rose superior to all other considerations. His high-minded spirit could not shrink from the duties which devolved on him as a military commander. He ordered out his company with promptness, and directed them to proceed on the route to Concord; and having made such provision for the medical relief of the sick under his care as the time would permit, he joined his gallant corps with all possible speed. Having arrived in the vicinity of Concord, he met the British on their retreat, with the cool and determined bravery of a veteran, and made such a disposition of his men, as to secure them from injury, and enable them to annoy the enemy with destructive vollies, as they passed a narrow defile. He then hung on their rear and flanks, in conjunction with other troops, until they arrived at Charlestown. The military talents and calm courage which he displayed on this occasion, were remarkable in a young man only 23 years of age, who had never seen a battle. It was noticed by those who had the direction of public affairs, and he soon after received the commission of a major in the Continental army.

He now entered on the duties of a soldier with ardor, and devoted all the powers of his mind to the cause of his country and the profession of arms. He carried into the service a mind pure and elevated, and ardent in the pursuit of knowledge. He had a high sense of moral rectitude, which governed all his actions. Licentiousness and debauchery were strangers to his breast; they fled from his presence, awed by his superior virtue. His gentlemanly deportment and unassuming manners secured the favor of his superiors in office, and rendered him the delight of his equals and inferiors. The following description of Agricola by Tacitus, his inimitable biographer, is peculiarly applicable to Brooks.

"Nec Agricola licenter, more juvenum, qui mi itiam in lasciviam vertunt, neque segniter, ad voluptates et commeatus, titulum tribunatus et inscitiam retulit: sed noscere provintiam, nosci exercitui, discere a peritis, sequi optimos, nihil appetere jactatione, nihil ob formidinem recusare, simulque et anxius et intentus agere."

Although he sought no enterprize

through vain glory, his active zeal and high ambition led him to solicit the post of danger, if he could thereby render useful service to his country.

When Gen. Ward had determined to fortify the heights of Charlestown, and arrangements were made for this purpose, finding that he was not included in the detachment, he solicited the general to permit him to accompany it, and his request was granted. He was active during the whole night of the 16th of June, in throwing up intrenchments, in reconnoitering the ground, and in watching the movements of the enemy. On the morning of the 17th, when it was perceived that the enemy were making preparations for an assault, he was despatched by Col. Prescott, as a confidential officer, to inform Gen. Ward of the movements, and to represent to him the importance of his sending reinforcements. This duty prevented his being in that glorious battle which has immortalized the heroes who were engaged in it, and consecrated the ground to everlasting fame.

This action established the reputation of our countrymen for determined bravery, and displayed the lofty spirit which actuated them in defence of their rights; convincing the enemy that they had to contend with a formidable foe. The sacrifice then made of our country's best blood on freedom's shrine, gave a sure augury of the successful termination of the contest. The lofty-minded and enthusiastic Warren, with all his acquirements and accomplishments, had offered himself a victim in this glorious oblation. As his spirit ascended to heaven, it diffused its heroic influence in every heart.

Amidst the exulting feelings which this dear-bought victory of the enemy inspired, our infant army did not fail to profit by the experience they had gained. The advantages of superior discipline in the enemy, were apparent to every one. They made a strong impression on the minds of our officers, and especially on that of our youthful hero. He had already acquired such a knowledge of tactics, that he had been consulted by superior officers on a system of discipline to be introduced into our army. He now applied himself with renewed diligence to this important part of his duty, and he soon acquired a high reputation as a disciplinarian. The corps he commanded were distinguished during the whole war for the superiority of their discipline, evinced by their gallant conduct in battle, and by their regular movements in retreat. He was second only to the celebrated Baron Steuben, in his knowledge of tactics. After this officer joined the army and was appointed inspector-general, we find that Brooks was associated with him in the arduous duty of introducing a uniform system of exercise and manoeuvers into the army.

He assisted in fortifying the heights of Dorchester, which compelled the British to evacuate Boston. He was very efficient in the successful retreat from Long Island. He acted a distinguished part in the battle of White Plains; and when the detachment of our army was overpowered by numbers, his regiment, of which he was the most efficient officer, so ably covered the retreat, that it received the distinguished acknowledgments of Gen. Washington, for its gallant conduct.

In the year 1777, he was promoted to the rank of lieutenant colonel in the eighth Massachusetts regiment, the command of which devolved on him, in consequence of the sickness of the colonel. In the spring of this year, he was ordered to join the northern army, and he took an active part in those movements and battles which terminated in the surrender of Gen. Burgoyne. In short, the capture of that army may be attributed, in no small degree, to his gallant conduct on the 7th of October, in the battle of Saratoga. It is well known, how ably he turned the right of the enemy—with what fearless intrepidity he led on his regiment to storm their intrenchments, entering them at the head of his men with sword in hand, and putting to rout the veteran German troops which defended them—and with what firmness he maintained this post, which he had so gallantly gained, notwithstanding the utmost efforts to dislodge him. This action compelled the enemy to change his position, and the field was then open for Gen. Gates, to surround and capture his whole army.

On the surrender of Burgoyne Col. Brooks was ordered to join the

army under Gen. Washington, and soon after, went into winter quarters at Valley-Forge, and in common with the army, suffered all those privations and hardships, which required more heroism to endure, than the most severe and bloody battles. How great are our obligations to those wonderful patriots, whom neither nakedness, nor disease, nor famine, nor the sword, could dishearten!

To follow our hero through all his valuable and laborious military services, would be to give a minute history of our revolutionary war; for there was scarcely any important services performed in the nothern and central operations of the army, in which he did not act a conspicuous part.—To describe these, is the province of the historian—we allude only to those remarkable events which serve to illustrate his character.

At the conclusion of the war, our army had a still more severe ordeal to pass through, than the battles and privations they had endured. It remained for them to subdue their own passions and resentments, and to make this last and most noble sacrifice for the welfare of their country. The pay of the army was greatly in arrear, and most of the officers had spent, in their country's service, all they owned and all they could borrow. Congress had no adequate funds for their payment, and it was deficient in the power of creating them. In this deplorable state of things, inflammatory, anonymous letters were circulated through the army, founded on the most plausible reasons, exciting them to retain their arms, and to take by force, what was due them in right. The apparent justice of this measure, concealed from the unreflecting, the horrible consequences which must have ensued from it. Fortunately for our country, there were many influential officers in the army, of that purity of heart, that soundness of judgment and elevated patriotism, which led them to view with abhorrence, this fatal expedient; and it is highly honorable to Col. Brooks, that he was among the first who opposed it. He had taken measures to this effect, in his own regiment, before the opinions of Washington were known, and he had the satisfaction of finding that his sentiments were in perfect accordance with those of the Father of his Country. He was honored with his most grateful acknowledgments and full confidence. His brother officers were so strongly impressed with his wisdom and prudence, that he was appointed one of the committee, which finally made an adjustment with Congress, and allayed that dreadful excitement. By the influence of these magnanimous patriots, the army gave this distinguished proof of their devotion to the liberties of their country; and in the language of Washington. we may say, "had this day been wanting, the world had never seen the last stage of perfection to which human nature is capable of attaining."

After the army was disbanded, Col. Brooks returned to private life, rich in the laurels he had won, in the affections of his fellow soldiers and in the esteem of the wise and good. He was not only free from the vices incident to a military life, but, what was remarkable, he had acquired more elevated sentiments of morality and religion. He was received in his native town, with all the kindness, the congratulations and attentions which love and friendship could elicit, or respect inspire. He was rich in honor and glory, but he had nothing to meet the claims of his beloved family, but the caresses of an affectionate heart.

His old friend Dr. Tufts, being infirm and advanced in life, was desirous of relinquishing his practice into the hands of his favorite pupil, whom he thought so worthy of confidence. His fellow townsmen responded to the wishes of his patron. He accordingly re-commenced the practice of physic, under the most favorable auspices in Medford and the neighboring towns. He was soon after elected a fellow of this society, and was one of its most valuable and respected members. On the extension and new organization of the society, in the year 1803, he was elected a counsellor, and continued to discharge the duties of this office with fidelity, until he was Governor of the Commonwealth. He was then discontinued at his own request. In the year 18 8, by the appointment of the board of counsellors, he delivered an anniver-

sary discourse on Pneumonia, which has been published, and evinces a mind well stored with medical science and correct practical observation.

On his retiring from the chair of state, he was again chosen a counsellor, with the view of electing him President of our society. It is unnecessary for me to expatiate on the pride and satisfaction we derived from his accepting this honor. Your own feelings will best convey to you the height of the honor which he reflected on our society. That he felt a deep interest in our prosperity, we have ample evidence in his so kindly remembering us in his will.

As a physician he ranked in the first class of practitioners. He possessed in an eminent degree those qualities which were calculated to render him the most useful in his professional labors, and the delight of those to whom he administered relief. His manners were dignified, courteous and benign. He was kind, patient and attentive. His kind offices were peculiarly acceptable from the felicitous manner in which he performed them. His mind was well furnished with scientific and practical knowledge. He was accurate in his investigations, and clear in his discernment. He, therefore, rarely failed in forming a true diagnosis. If he were not so bold and daring as some, in the administration of remedies, it was because his judgment and good sense led him to prefer erring on the side of prudence rather than on that of rashness. He watched the operations of nature, and never interfered, unless it was obvious he could aid and support her. He was truly, the "Hierophant of nature," studying her mysteries and obeying her oracles.

In his practice, he added dignity to his profession by his elevated and upright conduct. His lofty spirit could not stoop to the empirical arts which are too often adopted to obtain a temporary ascendency. He soared above the sordid consideration of the property he should accumulate by his professional labors. Like the good and great Boerhaave, he considered the poor his best patients, for God was their paymaster. In short, he was the conscientious, the skilful and benevolent physician—the grace and ornament of our profession.

His mind however, was not so exclusively devoted to his professional duties, as to prevent his taking a deep interest in the affairs of state. He had contributed so largely towards establishing the independence of his country, and had exhibited such sincere devotion to its welfare, that his countrymen, who have ever been distinguished for the acuteness of their discernment in judging of public men and measures, were always ready to display their confidence in him. They felt an assurance that they might safely repose on his conscientious integrity, wisdom and patriotism. He was consequently called to fill numerous offices of high importance in the state.

He was for many years major-general of the militia of his county, and established in his division such excellent discipline, and infused into it such an admirable spirit of emulation, that it was a most brilliant example for the militia of the state. In the insurrection of 1786, his division was very efficient in their protection of the courts of justice, and in their support of the government of the state. At this time, Gen. Brooks represented his town in general court, and he gave support to the firm and judicious measures of Gov. Bowdoin for suppressing that alarming rebellion. He was a delegate in the state convention for the adoption of the federal constitution, and was one of its most zealous advocates. After the establishment of the federal government, he was the second marshal appointed by Washington for this district, and afterwards received further evidence of his confidence and approbation, by being appointed inspector of the revenue. He was successively elected to the senate and executive council of the state. He was appointed by the acute and discriminating Gov. Strong, as his adjutant-general, in that perilous crisis of our affairs, the late war with England. The prudence and discretion with which he discharged this arduous duty, will be long remembered by his grateful countrymen.

These multifarious and laborious public services were performed with so much punctuality and ability, and with such dignity and urbanity, that, on the retirement of Gov. Strong from the chair of state. wise and dis-

creet legislators from all parts of the commonwealth, selected him as the most suitable candidate for that high and responsible office. It will be recollected, how forcibly every judicious mind was impressed with the excellence of the selection, and how strongly the public suffrages confirmed that opinion. His very name seemed to disarm party spirit with talismanic power; for many, who had never acted with his political friends, prided themselves in testifying their unlimited confidence in him.

It is fresh in your memories, with what trembling apprehensions he shrunk from the lofty attitude of the chair of state, and yet, when placed there, with what singular ease and dignity he presided, and with what signal ability he discharged its various important duties. His government was firm and decided, yet it was so mild and gentle, that its influence was chiefly perceptible in his happy facility of allaying party spirit, and all the angry passions of our nature. It was like that of a beloved and revered parent, whom all are disposed to honor and obey.

Amidst these high military and political honors which his fellow citizens took delight in bestowing on him, almost every institution of a literary, religious, patriotic, benevolent or professional character, seemed to vie with each other in conferring their highest honors on him. Harvard University acknowledged the value of his literary acquirements, by conferring on him the degree of A. M., in the year 1787, and in 1816, he received the highest honors of that seminary, the degrees of M. D. and LL. D.

The Society of Cincinnati recognized him as one of their most distinguished members. He was elected to deliver the first oration before them on the 4th of July, 1787; and on the death of Gen. Lincoln, their first President, Gen. Brooks was elected to succeed him.

He was a member of the Academy of Arts and Sciences. He was President of the Washington Monument Association, of the Bunker Hill Monument Association, and of the Bible Society of Massachusetts.

Having faithfully and ably discharged the duties of chief magistrate for seven successive years, he expressed his determination to retire from the cares and anxieties of public life. How great were the public regrets, and how gladly would a large majority of his fellow citizens have retained his valuable services; but they forbore urging him to any further sacrifices for the good of his country. He retired to private life with dignity, and with the love and blessings of a grateful people.

Having imperfectly traced the brilliant path of his public career, let us for a moment contemplate Gov. Brooks in his private character; and perhaps we may discover the true source of all his greatness, the charm which bound the hearts of his countrymen to him in ties so strong. He possessed a heart free from all guile, and every inordinate selfish feeling—an evenness of temper and sweetness of disposition. His discordant passions, for we presume he had them, being human, were kept in complete subjection to his virtues. He had a peculiar composure and complacency of countenance; and the delicacy and courteousness of his manners were uncommonly attractive. But above all, his conduct was regulated by the influence of that pure morality derived from our holy religion, which was impressed deeply on his mind, at an early period of life.

To those who contemplate his fearless intrepidity in the field of battle, or have observed the ease and dignity of his deportment on the military parade, or in the chair of state, it may appear incredible that this brave man possessed an uncommon share of diffidence; but to those who have approached him nearly, it is well known that this was a predominant trait in his character. This quality, so rare in little minds, is seldom wanting in great ones; but is scarcely ever so paramount as it was in our departed friend. It was absolutely necessary to make use of some degree of finesse, to induce him to accept any important office. This great reluctance in assuming responsibility, sometimes arises from inactivity or a love of ease—not so in him we would commemorate, for whatever might be his situation, he never was idle. So imposing is that obtrusive quality which some men possess, and so often does the world yield to its influence, that a diffident, retiring

disposition, is often mistaken for deficiency in talent. The bold and daring genius, confident in his own imaginary superiority, who is constantly thrusting himself into public notice, can hardly conceive it possible that any one should possess talents, who does not seek every opportunity to display them; and with reluctance yields assent to their existence in an individual so unlike himself.

The mind of Gov. Brooks was clear in its perceptions, and discriminating in its judgment, it was active, ardent and industrious in the pursuit of every valuable attainment, and powerful in the application of those attainments for the benefit of others. Although his mind shrunk from observation with the delicate excitability of the sensitive plant, it was like the oak in sustaining the pressure of every duty to his friends or his country.

In his relation to his native town, he completely reversed the maxim, that a prophet has no honor in his own country, for the inhabitants of Medford idolized him. They knew his worth and fully appreciated it. He was truly their friend and benefactor. He took so deep an interest in all their concerns, let their station in life be ever so humble, that they could always approach him with ease and confidence. They referred to him all their disputes, and so judicious were his decisions, that he had the rare felicity to satisfy all parties and to reconcile them to bonds of amity. It was observed by an eminent lawyer, who resided there, that he had no professional business in Medford, for Gov. Brooks prevented all contentions in the law. In addition to these intrinsic services, he was the grace and the ornament of their social circles, and seemed to fill the measure of their enjoyments.—*Dr. Dixwell.*

Charles Brockden Brown, the first highly distinguished novelist in the United States, was born in Philadelphia, and was descended from respectable English ancestors, who belonged to the society of Friends; and it would have been for his happiness, had he never known any impulse of genius, beyond the suppressed transports of a hearty greeting, at a quarterly meeting. Charles was fond of books, in his very infancy, and read all that came in his way without discrimination; but he drew mental food from all he devoured. Fiction and Geography were the studies he most delighted in, and in both of which, he became a great proficient, under Proud the historian, then an instructor of youths in Philadelphia. He also attended to the Latin and Greek languages. The master was delighted with his pupil, and predicted his future eminence. At the age of sixteen, he wrote essays, which received no ordinary share of praise. He was enamoured with public debates; and invented a system of short hand, to take down such remarks, as he heard from any orator. His friends were anxious, that he should now make choice of a profession, but after much deliberation, he chose the law, and entered upon the study of this science, with great zeal and assiduity, and soon became distinguished among his fellow students, for the progress he made in the books. A law club was formed, of which Brown was chosen President. Some of his discussions on moral points, are still extant, and show no ordinary sagacity and learning. It is not a little remarkable, that his juvenile law opinions, are delivered in a dry unornamented style, unlike all his all other writings. It is only another proof that a man of genius, can take what style he pleases. His friends were anxious to see him at the bar, for they thought, that when he had thrown off his diffidence, he would be among the first of lawyers and advocates; but he could never be prevailed upon, to commence business in this profession; for he had an unconquerable aversion, to the practice of law, as he saw it administered in the courts. He had read much, and reflected well; besides, he was full of thoughts of his own, as well as of others. His mind was not sufficiently drilled to put himself in the traces, and drag on whatever might be his load. Trying to flee from his profession and business, he found no means to do it, but by rambling into regions of fiction, and gathering flowers from worlds of his own creating. These he soon gave to the world. His first novel secured him some fame; and the second Wieland, published in 1798, gave him a rank among the

first writers of fictions, in the English language. This is a fine composition, altho' there is not, in the work, much resemblance to nature; still it was a splendid story, and expressed in wonderfully rich language.

"ARTHUR MERVYN, or the miseries of 1793." This is a history of the Yellow Fever, told in a manner too forcible, sometimes, for the philosophical reader, who wishes to receive facts, without much expense of feeling.

Edgar Huntly and Clara Howard followed; and if they did not add to the reputation of the author, it was because the reading community, had no other criterion of judging merit, than that of the sensation, experienced while the book was under their eyes. Brown wrote also the life of his brother-in-law, John Blair Linn. This was a noble panegyric, upon an excellent man. Linn had the soul of a poet, purified by the study of theology, and a devotion to the cure of souls. Brown described him with all the rapture of a devotee—and with the skill of a master of his subject, and of his pen. Novel writing in Brown's time, was but little above a profane employment, and the number of his readers were but few, in comparison with that of the present times. The classical and romantic, perused the first works of fiction, but the novel did not, as at the present time, find its way to the toilet of every fashionable, and of every statesman. The Pioneer, in this labor was, like that in most other great undertakings, considered as one, not a little beside himself. The writer of this once read Brown's Arthur Mervyn to a pious woman, of fine taste, and of a superior understanding; when she exclaimed, as he closed the book one evening, "My dear sir, what a noble preacher he would have made, what a pity it was, that he had not studied divinity." The reader was of her opinion, for he had squandered his time, and wasted his powers on an age, not prepared for such works. Brown was deeply embued with the thoughts of Godwin, and was perhaps at one time, somewhat of his sentiments in religion. Godwin was then loose in his thoughts upon morals, and politics, as well as upon religious subjects. The master spiri s of that age, have much to answer for, but some of them have lived, to repent of their opinions, and those who followed them, have in most cases, essentially changed their sentiments upon these matters. Brown died of a protracted illness and before his death became sensible that he had entertained wrong views of man and his Maker. We are indebted to William Dunlap, Esq. for what is now known of this great novelist. He was a friend and companion of the writer and, after his death, gave the public a memoir of him, which is marked with taste and good sense. Dunlap has done honor to American taste, both by his pencil, and by his pen. On the 22d day of February, 1810, Charles Brockden Brown expired in the 39th year of his age. If he could not be called a profound scholar, he certainly must be acknowledged to have been a man of genius. His imagination was of a high order, his sentiments delicate, his taste refined, even if misguided. His fame will increase in proportion as his works are examined, and a century hence his name will probably be more familiar to the public than it is at the present time.

JACOB BROWN. The last war gave sufficient evidence of American bravery, but there was a lack of well-informed officers. There were men among them of great talents, and who managed well, but even these would acknowledge that there were but few scientific officers at the commencement of the war, and that the army suffered much, for the want of them. Although it sometimes happens that circumstances create the necessary talents for the occasion, yet it is much better to have men acquainted with all that has been done in war or peace ready for service. Among those men who have started up at the moment they are wanted, and acted their part with honor, was the late major-general Brown. He began life with the peaceful tenets of a quaker, and pursued the unobtrusive employment of a teacher of youth. For some time he was not aware of the spirit that was within him, but at length he saw the sun rise and set while he was in the same dull round of humble duty, and the thought came over him that he was destined for something of a more active nature. In 1799 he went on to the fron-

tiers and purchased a lot of land, took his axe, and began to fell the forest with his own hand, in order to commence a settlement. This was soon done; he purchased more land; and was made agent for M. Le Roy de Chaumont, a distinguished Frenchman who owned a large tract of that country, and was industrious in obtaining settlers, and when he had enough for a company of militia they were formed and he so far shook off the quaker as to take the command of them, at their urgent request. From the command of a company he soon found himself at the head of a regiment and from that office, at the commencement of the war of 1812, he was raised to a major general, and when the militia were first called upon to assist the regular troops on the frontiers, his name had hardly reached head quarters at Washington; but such was his promptness, efficiency and success, that the general government, not a little embarrassed at the previous disasters in that quarter, proffered him a high command in the army of the United States. It was accepted and he moved on from one degree of fame to another in this short war, until he found himself at the head of the army, and at the return of peace he made his head quarters at Washington, and remained there until his death in 1828. General Brown was considerably above the common height, over six feet. His countenance was a fine assemblage of regular, good sized features, which most admirably expressed his striking characteristics, mildness and determination. He had nothing in his manners of that importance and vanity which often accompanies a self-made man; on the contrary, he was for ever on the watch to gain something new. He was well aware of his early deficiencies as a military man, as any one would be; and he took the advice of those in whom he had confidence, and weighed it in a sound balance; and of course was seldom wrong. If he was not the master spirit of the army, he was well calculated to be at its head, he managed all so gently, and impartially. He was as much esteemed in private as in public life. In the social circle at Washington, he thought nothing of that pride of office so common with little men; but was affable to all. The public deeds of such men will find historians enough in every future age; but we should see on the records of the present hour, something said of their private virtues. These gems of life, though lasting as eternity, are often buried in the dust at the base of the pyramid of a great man's fame. Brown was a general of a primitive cast; he emulated antiquity.

Moses Brown, an eminent merchant of Newburyport, in the county of Essex, in the state of Massachusetts, and a great benefactor to the theological institution at Andover, was born at Newbury some where about the year 1742.—He was taught "the trade and mystery" of a wheelwright, and followed the business for many years with great industry. So remarkable was he for early and constant labor, that one of his indolent neighbors, when tauntly reminded of his idleness, facetiously replied, that he and Moses Brown did as much work as any two men in the town of Newburyport.

He commenced a trade to the West Indies, in a small way, by adventures, soon after the peace of 1763, which made the business a safe one. At that time Great Britain had not bound up her colonies by such severe restrictive systems as she since has; and the islands belonging to the French were generally open to our commerce. In a few years Mr. Brown had vessels of his own, and was very successful; and before the revolution broke out, was a man of considerable property. During the struggle he did some business at no small risk, at the French and Danish islands, but he never fitted out a privateer or took a share in one. At the peace of 1783, he commenced on a large scale, and accumulated property with great rapidity. The slave trade was then a profitable business, but Mr. Brown turned from any suggestion of such a voyage with abhorrence, and once dismissed an excellent ship-master on learning that he had made a voyage to Africa, and brought slaves to the market of South-Carolina.

He was a man of a mild disposition, a friend to the poor and an easy creditor; he often said, that he could collect his dues by fair words, and

gentle treatment, sooner than his neighbors could by suits at law. He only applied the law to rogues. He never was ambitious of notoriety or office. For sixty years, he was seen almost every day during that long period, taking his customary walk between his house and wharf. The first at the dawn of day, and the last when business hours were over. Such was the equinimity of his temper that he was seldom seen even fretful, and never was known to storm or rage at the most provoked insult or deepest injury. He was familiar with every one in his service, and in any difficulty they applied to him as a friend;—for his frequent interference in these matters, he acquired the name of the *peace-maker*. If in matters left to him as a referee, he did not always decide right, he never failed to bring about a reconciliation between the parties, which perhaps, was better than stern justice. He had a good flow of spirits to a very late period of life, and often indulged in a playful strain of conversation that made him a pleasant companion to all classes of society. He had but one child—a daughter, who was married, but died before her father, leaving an only daughter. He not only gave to charitable and religious institutions in his life time, but remembered them in his will—as also his least wealthy relations and connections. He died at Newburyport, in the fall of 1825. No man ever showed more practical piety, or led a more blameless life.

Peter Bryant, M. D., a physician and man of letters, was born in the North Parish of Bridgewater, Massachusetts, on the 12th of August, 1767. He was the fourth son of Dr. Philip Bryant, who practised physic in that place for more than sixty years. Dr. Abiel Howard, the first native of Bridgewater, educated at Harvard University, was his natural grandfather, and in the well furnished library of this gentleman, he found the means of gratifying an early and predominant passion for study. After a preparatory education, he entered upon the study of medicine with his father, and subsequently became a pupil of Leprilete, a French surgeon settled in Norten, in Bristol county, and a man of great dexterity and knowledge in his art. He completed his studies in 1790, and the next year went to Cummington, in Hampshire county, where he married, and where he continued for the most part in the practice of his profession until the time of his death. In the early part of his professional life, he went in a surgical capacity to the Indian Ocean, visiting, on his way, the Cape of Good Hope, and remaining for some months at the Isle of France, where he learned the French language, and laid the foundation of that familiarity with the French literature which he afterwards attained. He was for many years a member of the Massachusetts House of Representatives, where he exerted himself, in conjunction with several of his friends, to procure the enactment of certain regulations, the object of which was to raise the standard of education and knowledge among the members of the medical faculty.

After many unsuccessful attempts they prevailed, and in 1813, a system of rules was adopted in relation to the examination and licensing of practitioners of physic and surgery, which has continued with little alteration to this day. Dr. Bryant was chosen a member of the electoral college of Massachusetts, on the election of President and Vice President of the United States, in 1816. The next year he was returned to the Senate of his native State. He was an early member of the Massachusetts Medical Society, and for many years held the place of Counsellor in that body. While preparing to deliver the anniversary discourse before the Society, he was attacked with the disease which put an end to his life. He died of consumption, on the 19th of March, 1820.

Dr. Bryant was profoundly versed in the learning of his profession, the authors of which he collected with diligence, and studied with eagerness, seldom sitting down without a book in his hand, and making that a recreation which most men regard as a labor. He was also well read in English literature, of which he judged by the rules of a severe and independent taste. In surgery he was a delicate and dexterous operator. He was the author of many compositions in prose and verse, which appeared in the publications of the day. They were mostly on professional and political subjects, and of a hu-

morous cast, and were distinguished for their point and polish. His manners were modest and retiring, and he was not less beloved for his private virtues than respected for the qualities of his intellect.

Edwin Buckingham, the son of Joseph T. Buckingham, Esq. was born in Boston, on the 26th of June, 1810. He received his education entirely at the public schools in Boston, which have for a long succession of years been famous for good scholars. At eleven years of age, he obtained the Franklin medal, which in that city gives a youth no ordinary distinction among all classes of citizens. From one of the common grammar schools, he entered the English high school, then taught by George B. Emerson, Esquire, a most excellent instructor of youth, where he remained two years and a half, and on leaving this institution, he became a regular apprentice in the office of the Galaxy, a literary and miscellaneous paper, then edited by his father. Mr. Buckingham, senior, soon after this event, began a daily paper—the Courier—and the greater part of the care of making up the Galaxy fell upon the youthful son. Before Edwin had reached his nineteenth year, the Galaxy was sold, and he entered the office of the Courier, in which he remained until 1832. In this time he attended four or five sessions of Congress, as a reporter for the National Intelligencer, and was at the same time, a regular correspondent, not only for the Courier, but for two other papers. It was a matter of surprise to the members of Congress, and others, to see a rosy-faced, beardless boy following the speakers in the gravest debates with the most intelligent look, which said distinctly, I understand both the subject and the argument, and the next morning's paper proved the fact, if there were any previous doubts upon the subject. At this time he assumed no airs, or even seemed to think that the world was looking on him as a genius, but retained the modesty and symplicity so becoming that age. When at home he was not content with performing the duties of an assistant editor, but intending to be master of his profession, he performed nearly the manual labor of a journeyman.—When worn down by corporal and mental labors he travelled for health and spirits, but on these journeys, his mind was always active. He saw every thing in his pathway, and described every circumstance with great truth and felicity. When in the South, he spoke with great discrimination of the characteristics of the people, and followed the dictates of a sound judgment, unaffected by a previous impression. Wherever he went he found friends and admirers, who now deplore his untimely death. Not satisfied with devoting himself exclusively to a daily paper, whose best columns pass away into forgetfulness with the lumber of the common sheet, he united with his father in establishing a monthly Magazine. His health at this time had received a shock from a severe cold caught in passing the marshes of Lynn, in the evening, after attending the trial of the murderers of Captain White, at Salem, all day, as reporter, in the hottest season of the year, 1831—and from this, he never fully recovered, but still continued his labors with unabated ardor until May, 1832, when his physician recommended a foreign voyage for his recovery, and in consequence thereof, he embarked for Smyrna, where he resided several months, and by the advice of the Faculty of Medicine at that place on the 26th March following, he embarked for his native land, which he was destined never more to behold. He died on the passage, and his body was committed to the great deep, the grave of many both of the young and the aged, of the beautiful and the brave. The news of this young man's death cast a gloom on the city of his birth, for he had thousands of friends, but no enemies. His talents had attracted their attention, and the sweetness of his disposition with the delicacy of his manners secured their affections. His pure, moral and unobtrusively religious character, elevated his reputation for intellectual superiority. He never was a boy, although he made no pretentions to precocious gravity. His sagacious and affectionate father constantly treated him according to the development of his character, not according to the years he had numbered. This was judicious and should be practised upon as a principle oftener than it is by parents.

The acquirements of Edwin Buckingham were extensive for one of his years. He was an excellent English scholar, and a respectable mathematician. His views of general science, if not minute and extensive, were various and judicious. He was familiar with all the standard works in the English language, and he quoted them with promptness and aptitude. He read French with a good degree of fluency and was well acquainted with the works of taste in that language. He was nearly self-taught in Italian, but could write it with a good degree of accuracy,—and while in Smyrna, he applied himself to modern Greek, and made such progress in the language, as to be able to speak it with tolerable fluency. Some opinion of the bent of his mind may be inferred from the fact that he never left home for a single night without taking a Bible and a small edition of Shakspeare as his companions. There were no moments of such a life wasted in youthful frivolities. All was spent in attainment, and at that period of life, we acquire most rapidly by communicating our knowledge, to others. In the field of intellect, the oftener the harvest is reaped the more abundant is the crop. As a member of society, he was useful beyond most persons of his years—and this usefulness was accompanied by large promises of future greatness. As a friend he was inestimable, for he was not subject to a caprice of feeling which often blights the best affections of the young, and diminishes the value of human life. As a son he was all a fond father could desire, for his virtues delighted a parent's heart, and his talents gratified his ambition. He saw him filling a large space in society, and every day advancing in fame. The death of such a son paralyzes some of the best pulses of a parent's heart, and dims all his earthly visions.

On the New-England Monthly Magazine the deceased had set his heart. He meant to spend his days and nights in increasing the reputation of this periodical. He lived to see it prosper and command the attention of the best of the literati of the Union, and to have its claims allowed abroad. It is seldom, in the amusements or honors of life, that father and son can walk hand in hand, but in the path of literature and science they may be co-equal, and, share the wreath of glory between them;—and when age or sickness has seized the elder, they can keep together, bound by the ties of affection and consanguinity, and march onward from evils in the night of danger, like Æneas and his father Anchises, to safety and repose;—So Burke reasoned and anticipated, in his own case, but heaven decreed that the ties of nature should be broken, and the illusions of hope dissipated. Fathers so bereaved may say, with joy shining through their tears, when they contemplate the virtues of their children, and remember all that they have done, and their premature deaths—with "the bard of blessed visions that strengthen and elevate the soul."

> Fame is the spur that the clear spirit doth raise,
> (That last infirmity of noble minds,)
> To scorn delights and live laborious days;
> But the fair guerdon when we hope to find,
> And think to burst out into sudden blaze,
> Comes the blind Fury with th' abhorr'd shears,
> And slits the thin-spun life. But not the praise,
> Phœbus replied, and touch'd my trembling ears;
> Fame is no plant that grows on mortal soil,
> Nor in the glist'ring foil
> Set off to the world, nor in broad rumor lies;
> But lives and spreads aloft by those pure eyes,
> And perfect witness of all-judging Jove,
> As he pronounces lastly on each deed,
> Of so much fame in heaven expect thy meed.

George Cabot, a distinguished merchant and statesman, was born in Salem, Massachusetts, in 1752. He was educated as a merchant, and for several years visited foreign countries as a factor for his father, who was an enterprising and opulent ship owner. He was considered a young man of talent, and soon after commencing business, he was elected a member of the Massachusetts provincial Congress—of which General Warren was President. The good people of Massachusetts, wishing to alleviate the distresses of the times, proceeded to consider the propriety of fixing a maximum price upon foreign goods. This he opposed with such strength of reasoning, as to prevent any restriction upon commerce.

During the war, he was an active merchant. He with his brother having, at one period of the contest, twenty privateers of a large class, carrying from 16 to 20 guns each. These vessels were very successful for four or five years; but the British, towards the close of the war, having

lost more than 1,700 merchantmen, grew wiser, and fitted out a large number of frigates, and gun brigs, that were superior in force to most of our privateers, and a great portion of them were taken. The Cabots were severe sufferers, losing nearly all their armed ships before the war closed.

When peace was restored to the country, Mr. Cabot was active in bringing the people to see the necessity of forming a sound and permanent general government. With others he used the public press to enlighten the country upon the great doctrines of civil and political liberty.

He was active in establishing a State Constitution for Massachusetts, and afterwards, in 1788, was a member of the convention for adopting a constitution for the United States. Soon after the constitution went into operation, he was chosen by the legislature of Massachusetts as a Senator in Congress. In 1798 he was appointed, by John Adams, Secretary of the Navy, but he declined the appointment; yet he took an active part in assisting the government to build and equip a navy. Liberal loans were subscribed by the merchants in every part of the country, and Mr. Cabot was among the foremost. The government fired at the insults and indignities offered our commerce by France, were so active in building ships of war, that a few months were sufficient to take the timber from the forests to construct a sloop of war, and in a few more days to get her ready for sea.

A respectable force was soon on the ocean and earned laurels wherever they met the enemy.

During these dark hours of our history, when Hamilton and Ames were full of apprehension for our destinies, Mr. Cabot was laboring with them in opening the eyes of the people, blinded by party feuds. It is said that Ames, always flowing, and sometimes too redundant, consulted Mr. Cabot in regard to his publications, and frequently submitted to his judgment when they differed in opinion.

For many years of the latter part of his life, Mr. Cabot resided in Boston where he was held in the highest estimation. If there was a matter of mercantile usage to be settled, he was consulted;—if there was a misunderstanding between merchants, he was made arbitrator; aye, even if there were an affair of honor to be settled, his opinion was law. In 1815, he was elected from Suffolk county as a member of the Hartford Convention, and was made President of that body. Where he was, every one was satisfied that all would be done with decency and correctness, both in manner and principle. He was brave, and discreet as brave. His ambitious days, if ever he had any, were over, and prudence and judgment were, at the time of the Hartford Convention, his great characteristics. The person of Mr. Cabot was of the finest cast. He was tall, and well proportioned. His head was a model for the sculptor. There was a classical expression of the countenance, that made him the object of observation to every stranger. His movements were dignified, and his voice sonorous and commanding. Looking at him, you would say, there is a gentleman; and no one would question the assertion. He was as amiable as excellent; there was no asperity in his nature. He took a broad and noble view of every subject, and uttered his opinions with fearlessness, but with modesty—and his decisions were as oracles. Mr. Cabot died in April, 1823, in the 72d year of his age: and enjoyed through that long period, all that philosophy, philanthropy and religion could give to life. The civic wreath of such a man should be green forever.

Mark Catesby was born in England, about 1680. An early propensity to the study of nature, first led him to London, and afterwards induced him to seek information in distant regions of the globe. Having some relations in Virginia he visited the colony in 1712; where he remained seven years, industriously occupied in collecting the various productions of the country, and occasionally transmitting seeds, and specimens of plants to his correspondents in England. On his return to England in 1719, he was encouraged by the assistance of several of the nobility, of Sir Hans Sloane, Dr. Sherard, and others, to return to America, with the professed design of describing, delineating, and painting the more various objects of na-

ture. He arrived in 1722, in Carolina, which was selected as the place of his residence, and having first examined the lower parts of the country, on his occasional excursions from Charleston, he afterwards sojourned for some time among the Indians in the mountainous regions, at and about Fort Moore; he also extended his researches through Georgia and Florida. Having spent nearly three years on the continent, he visited the Bahama Islands; and residing in the Isle of Providence, he prosecuted his plan, and made various collections of fishes and submarine productions. After his return to England in 1726, being well received by his patrons, he acquired the art of etching; and retiring to Hoxton, he devoted his time to the completion of his great work, which he published in numbers, of 20 plants each. The figures were etched by himself, from his own paintings: and the colored copies were done under his own inspection. Although his attention was principally restricted to plants, yet most of his plates exhibit some subject of the animal kingdom. The first number appeared towards the close of 1730; and the first volume, consisting of 100 plates, was finished in 1732; the record in 1743: and the appendix of 20 plates in 1748. Of each number a regular account was written by Dr. Cromwell Mortimer, Secretary of the Royal Society, as it appeared, and printed in the Philosophical Transactions. The whole work is entitled, "The Natural History of Carolina, Florida, and the Bahama Islands, &c." and is comprised in 2 volumes, imperial folio. It contains descriptions of many curious and important articles of food, medicine, domestic economy, and ornamental culture; and has been allowed to be the most splendid work of its kind, that had then been published in England, or even on the continent; that of Mrs. Merrian excepted. The principal defect of the work, is the want of a separate delineation of all the parts of the flower; the necessity and importance of which, however, the state of botanical science at that time did not suggest. This work was republished in 1754, and in 1771; and to the last edition a Linnean index is added. The first edition is the most valuable, because the plates were colored under the immediate direction of the author. Soon after his second return from America, Mr. Catesby was elected a fellow of the Royal Society, and lived in social and friendly intercourse with many of the respectable members of that body; being "greatly esteemed for his modesty, ingenuity, and upright behaviour." He was the author of a paper printed in the 44th volume of the Philosophical Transactions, "On birds of passage;" in which he proves the reality of their emigrations, in search of proper food, from a variety of observations, which he had an opportunity of making, during his voyage across the Atlantic. He died in London in 1749, at the age of 70, leaving a widow and two children. Dr. Gordon found great fault with Catesby, whose whole work, he says, "but especially the second volume, is so incomplete, and abounds with such gross errors, that it would be no small task to amend and complete it; and that he never consulted it without indignation and disgust, at seeing the most beautiful works of the Creator, so miserably defaced and mutilated and so illy represented."

NATHANIEL H. CARTER.

Wherever fountain or fresh current flow'd
Against the eastern ray, translucent, pure,
With touch ethereal of heaven's fiery rod,
He drank.—*Milton.*

The bold, the decided, and the energetic, have a much greater chance to be handed down to posterity than the delicate and sentimental. This is natural. We are charmed with the morning and the evening star; but we soon forget when it arose, and when it set. We only remember its mild and lovely light, and that we were happy in gazing at it; but if we chanced to behold a meteor which flitted across the heavens in the collied night, we can name the hour and the season of its appearance: so it is of the wild and strange in the mental world; they are held in remembrance while the sweet and lovely are forgotten. It is in our nature to recollect some profligate line, or vicious character, when the once amiable and interesting are but partially kept in view. We have made these remarks in calling to our mind that distinguished scholar and amiable friend, Nathaniel H. Carter, who has been dead only about three years, but whose travels, whose verses, and

other productions, we have read and admired for several years past. He should be remembered, for he had extended our literature, and added a stock to our rational amusement and instruction. We look back upon his life with melancholy pleasure, and will detail some passages of his history.

Nathaniel Hazeltine Carter was born at Concord, New-Hampshire, September 17, 1787. He was the son of an honest yeoman of that place, who never dreamed that his boy had any distinguished marks of talents about him, until he was noticed by a committee, who visited the small school in which he was a student. It was not until he was quite a good-sized lad that his father consented that he should, in the language of that meridian, "*go to learning*." When this was settled, he was sent to Exeter academy, one of the best literary and scientific institutions for elementary knowledge which has ever been established in New-England, which contains the best that can be found any where. He was beloved by Doctor Abbot, the principal of the institution, and the students were delighted with his simplicity of character. This excellent and venerable teacher has been in that situation for forty years, and is named, with Busby and Parr, as one who has been equally successful in developing the mind of youth with them, without a particle of the severity of the former. He was the schoolmaster of Cass, Webster, Saltonstall, Carter, and hundreds of others not unknown to fame; and all bear testimony to his indefatigable care, and parental solicitude for their welfare while with him, and to his deep interest in their fame in after life.

From this institution he entered Dartmouth college, and was at once ranked among the first of his class, which rank he never lost while a student. He never neglected a lesson in any branch of studies, but found time to devote many hours to the muses, and was even at this early period considered a poet of uncommon promise. There was not one of his companions who was so generally admired as Carter, and boys at the age of college life, are not wanting in discernment.

On leaving Dartmouth he took charge of an academy at Salisbury, not far from his native town, but left this situation for one of more emolument at Portland. In this pleasant and tasteful place, he met with congenial spirits; men of talents, of acquirements, and social habits. He has mentioned the club to which he belonged, and to which his productions were submitted. Ayer, Bray, Davies, Deering, Freeman, Mellen, Sewell, Storer, Benjamin D. Willis, Wright, and others, all of whom are known to the literary world, were members. Here, too, he entered into female society, of which he was remarkably fond; and, to do him justice, the poet was a favorite with them. He spent many hours in their company, and improved by his attention to those courtesies of social life which the scholar is too apt to neglect.

In 1817, when the charter of Dartmouth college was modified by the legislature of New-Hampshire, and made a university, he was appointed a professor of languages in that institution, and remained at Hanover until the supreme court of the United States decided that this act of the legislature was unconstitutional. The old college had not ceased to exist, refusing to give up the libraries, and other property in their possession to the new university, and also retained the great proportion of the scholars. In these trying times of crimination and recrimination, Carter was always popular, for he offended no one, and took every opportunity to conciliate the asperities of party.

On leaving Hanover, he repaired to New-York, and was miscellaneously employed in reading law and other matters, when, in 1819, he became editor of the Statesman, a journal which had taken the place of the Register printed at Albany, devoted to the cause of De Witt Clinton. In this paper Mr. Clinton had the reputation of writing some excellent articles over the signatures of Hibernicus, Tacitus, and Heraclitus. These were high party times, and every thing that had a relation to politics contained the roots of bitterness. His side of the question was in this campaign successful, and his friend, who had been the cause of his coming to Albany, Charles G. Haynes, was made adjutant-general of this state,

and was now instrumental in bringing Carter to the city of New-York; here he united the Columbian and the Statesman under the name of the latter, and associated himself with a practical printer, the late George Prentiss He had previously been one of the reporters of the debates in the convention for amending the constitution of this state, and, in connection with William L. Stone, and Mr. Clark, published a volume of these debates. This book does the reporters great credit, and their labors were approved of by the members of the convention.

In July, 1822, the yellow fever broke out in this city, and Carter, with his friend Stone, fled from the infected district to a garret—for each one found the best retreat he could—on the corner of Broadway and the street leading to Potter's-field. Here, as they retired to rest, after the labors of the day, for both editors kept up their papers, they heard the rumbling of the carts conveying the departed to their long home—"unhonored and unsung." This was almost too much for the sensitive nerves of poor Carter. He brooded over it with great distress. He alludes to this season in one of his poems:

"Frequent by night was heard the rumbling jar
Of the black hearse, or mercenary car,
That, weary of its loathsome burden, sped,
And hurried to the grave the unhonored dead!"

For several winters, while acting as editor of the Statesman, he spent a month or two at Washington, and from thence wrote letters for his paper. These exhibited so much candor, united with no ordinary talent of description, and a pretty good share of discrimination, that they were as popular, if not more so, than any that had heretofore come from the city of gossip, when congress is in session. In no society under the sun can be found such a variety of character; not even in a caravansary in the Levant, as Washington affords, when all the members are there with petitioners of all sorts, office-seekers, &c. He was inclined to see most things in a favorable light, and this was unquestionably the best policy.

In the summer of 1824, he delivered a poem at Dartmouth college, before the Phi Beta Kappa. The subject was "Pains of the Imagination." It was intended as a counterpart to the "Pleasures of the Imagination," by Akenside. The author succeeded in bringing, in a powerful manner, those scenes which haunt and disease the mind, principally through the medium of tortured affections. With no ordinary success he now and then admits a gleam of light amidst his darkness, to make it more visible. The closing lines of this poem is one among other proofs of his affectionate attachment to the scenes where he wooed the muse, or enjoyed the social hour.

"Brothers! unsung one only task remains,
Last of imagination's feverish pains:
The conscious thought that weighs upon my heart,
That, hence in life to meet no more, we part!
That with the social, literary few,
Whose friendly presence cheers, to-day, my view,
Hence I shall tread the academic scene
No more, nor we in learning's halls convene;
But lingering, bid to Dartmouth's spires adieu,
And life's diverging, checker'd paths pursue!
Ye rural walks, ye hills, sequestered glades,
Ye haunted streams, and consecrated shades,
Groves hallowed by the muse, and classic bowers,
Scenes of my early and my happiest hours,
Farewell! to me your unalloyed delights,
Those days of study, and those attic nights,
Philosophy and science, ancient lore,
And wisdom's lessons shall return no more!
One bright reflection gilds the parting tear,
That still the chosen few shall linger here,
Still o'er the muse's vestal rites preside,
In genius, friendship, high pursuits, allied;
Maintain our brotherhood with generous aim,
And guard our Alpha's and our Alma's fame."

In 1825 he made arrangements to accompany a son of the late Mr. Henry Eckford, on a European tour, with an intention of publishing letters in the Statesman, which he might send home for that purpose. When on the eve of his departure, he recollected that he had not seen the great wonder of nature—the falls of Niagara—and he could not think of visiting the natural and artificial curiosities of the old world, until his eyes had been gratified with a view of this cataract. He thereupon set out on a tour to the north; and on his return embarked for England. His letters were sent to his partner, and were regularly published. They are written in an easy, flowing style, and with such religious exactness as he saw things, that they became popular, and were copied into the periodicals in every part of the United States. These letters are amusing and instructive, sometimes, perhaps, too minute; and in them too, many things are explained which might be presumed to be understood. This came from having spent so many years in teaching; but, as a whole, there is hardly a volume of travels

extent among us, that conveys so much information, in so gentlemanly a manner, as this work from Mr. Carter. The reader rises from a perusal of these productions, enlightened as to facts, and refined by a pure current of virtuous feeling which runs through all his remarks. It might have been said religious feeling, for he always viewed things as a Christian.

On his return, in 1827, he corrected and revised his letters, published and unpublished, and gave them to the public in two good-sized octavo volumes. They were widely circulated, but he had not the talent of making the most of them, either of notoriety or emolument. His health, for a long time precarious, had now become quite feeble; and he was impressed with the certainty of a speedy dissolution. To avoid the sufferings he knew he must experience by a winter residence in New-York, he sailed to Cuba in the autumn of this year. From this place he did not write any letters for publication, and it is believed that he was too unwell to have set about any literary labor of importance.

He returned in the spring of 1829, with an intention of resuming his editorial labors; but he soon found that he had not sufficient strength for this, and amused himself by taking a journey to his native state, and the neighboring country; but the disease was too deeply seated to be eradicated by mountain air, pure fountains, or the sweet recollections of childhood. The next year his partner died, and he sold out his share of the establishment, thinking that he should not again resume his labors as an editor of a political paper. For such a task he was never fitted. He was too sensitive for a politician. He should never have left the classic bowers of the academy; there was his home; the place of his heart; the field of his fame. He loved his friends too ardently, and was too just to lash his enemies with sufficient severity to please the public as a party writer. The feuds of political contests allow no gentle feelings—admit no tears but those of iron—such as Plato shed when he feared that power was passing from him.

When at Concord, his birth-place, he addressed a few lines to his "native stream," in which he alludes to his travels. This allusion is a delicate morsel of poetry:

Along the Shannon, Doon, and Tay,
I've sauntered many a happy day,
And sought beside the Cam and Thames
Memorials of immortal names;
Or mingled in the polished train
Of fashion on the banks of Seine.
And I have seen the azure Rhone
Rush headlong from his Alpine throne;
Green Mincius, and the silver Po
Through vine-clad vales meandering flow;
Sweet Arno, wreathed in summer flowers,
Linger midst Etrurian bowers;
And the old Tiber's yellow tide
Roll to the sea in solemn pride,
In climes beneath the burning zone,
Mid tangled forest, deep and lone,
Where fervid skies for ever glow,
And the soft trade-winds whispering blow,
My evening footsteps too have prest
The loveliest Island of the west;
There Yamuri winds deep and calm,
Through groves of citron and of palm;
There on the sluggish waves of Juan
My little boat hath borne me on;
Or up Canimar's silent floods,
Strewed with the blossoms of its woods.

In the fall of 1829, he was invited by a kind friend, Mr. Fitch of Marseilles, then in this city, to take a voyage to France, and try the mild air of the vine-clad hills of that country. This gentleman had known him when he was on his travels, and soon acquired an affection for the guileless and gifted scholar, and saw with pain his deplorable state of health. On his voyage, Carter had made up his mind that his hour of departure was at hand, but he was not dismayed, and wrote a short poem on his own burial. It is singularly distinct for one hovering on the brink of the grave, and shows much Christian philosophy upon the subject of his dissolution. It lies before us in his own hand-writing, and is as follows:

The Closing Scene, or the Burial at Sea.

From his room to the deck they brought him dress'd
For his funeral rites, by his own request,
With his boots, and stock, and garments on,
And nought but the breathing spirit gone;
For he wished a child might come and lay
An unstartled hand upon his clay.
Then they wrapp'd his corse in the tarry best,
To the dead, as Araby's spices, sweet,
And prepared him to seek the depths below,
Where waves never beat, nor tempests blow
No steeds with their nodding plumes were here,
No sable hearse and no coffin'd bier,
To bear with parade and pomp away
The dead, to sleep with his kindred clay.
But the little group—a silent few,
His companions, mixed with the hardy crew.
Stood thoughtful around till a prayer was said,
Over the corse of the deaf, unconscious dead.
Then they bore his remains to the vessel's side,
And committed them safe to the dark blue tide;
One sullen plunge, and the scene is o'er,
The sea rolled on as it rolled before.
In that classical sea, whose azure vies
With the green of its shores and the blue of its skies,

In some pearly cave—in some coral cell,
Oh! the dead shall sleep as sweetly, as well
As if shrined in the pomp of Parian tombs,
Where the east and the south breathe their rich perfumes.

Nor forgotten shall be the humblest one,
Though he sleep in the watery wastes alone,
When the trump of the angel sounds with dread,
And the sea, like the earth, gives up its dead.

Mr. Carter arrived at Marseilles, in December, 1829, and breathed his last not many days afterwards. His funeral was attended by all the strangers in the city, and most of the native literati, for his reputation was known to the inhabitants of that enlightened and hospitable place.

Thus died, in a land of strangers, in the forty-third year of his age, Nathaniel H. Carter, one of the most virtuous men of the day. Wherever he went he made friends. There was a moral perfume in his path. He was beloved by the philosopher and the man of business, and even by his political opponents. From the day he entered a school-room to the apartment in which he "resigned his spirit unto God who gave it," he never found an enemy. Governor Clinton treated him as one of those who were made for something better than the wear and tear of a politician—Dr. Hosack loved him as a scholar and a friend, and to show the reciprocity between them in respect and feeling, we insert the following lines from Mr. Carter, never before published, addressed to Dr. Hosack on his Memoir of Clinton.

In classic times, when Swift and Young,
Pope, Addison, and Dryden sung,
The grateful muse was prompt to send
A generous tribute to her friend;
As some immortal work appeared,
Above the rest her plaudits cheered,
Foremost to hail with loud acclaim,
And weave the unfading wreath of fame.
Had I the genius to revive
That golden period, thou shouldst live
In lofty verse, that breathed thy praise,
And crowned thy brow with learning's bays.
Then, too, might this unpolished rhyme
Perchance survive the lapse of time,
And meet the eye of future age,
Prefixed to thy resplendent page.
Blest destiny! could I but twine
One laurel round that glorious shrine
Thy taste hath reared, and joined thy fame
With Clinton's bright, undying name.

Dr. Perkins extended to him, in every light and shade of his existence, after they became acquainted, the affectionate attentions of a brother. He guarded his interests, assisted in replenishing his purse, watched over his health, and extended his sympathy to his bier, and his friendship to his memory, when the grave had closed upon his ashes. What Pope said to Arbuthnot might Carter have said to Perkins:

Friend of my life, which, did not you prolong,
The world had wanted many an idle song.

The writings of Mr. Carter have been preserved with care, and are more numerous than even his most intimate acquaintances supposed. In some of his less labored efforts there is more of the gentle harmony and lovely imagery of Goldsmith, than in his more elaborate productions.

John Carver, the first governor of the Plymouth colony, was a native of England, and one of those who fled to Holland with Mr. Robinson, to enjoy, in that Protestant country, without fear of a Hierarchy that dealt in faggots and stakes, the religion of their choice. New difficulties beset them here; although they were not persecuted for their belief, they were apprehensive that their children would be led away by the people about them, who were not sufficiently strict for those Pilgrims—the history of these adventurers ought never to be forgotten. It is wonderful to think what changes have been produced in the world by the simple circumstance that a handful of men should have left one continent to find a resting place on another—On the 22d day of December, 1620, a small vessel, of a hundred and eighty tons burthen, not much larger than some of our coasting vessels at this period, on board of which, according to the notions of modern comfort, not more than a dozen passengers could be accommodated for a short voyage, entered the harbor of Plymouth, and from her landed, with the intention of making it a permanent residence, one hundred and one persons. The bleak shores of New-England received this little band of Pilgrims, at this inclement season of the year, after they had been a hundred and sixty-nine days from Holland, and a hundred and seven from England. The deed was one of daring, and one which could alone have been supported by religion, enthusiasm and fortitude: their minds were braced up to it; there was something of that glow which beamed from the countenance of the first martyr in every breast of the Pilgrims. They had lived nearly eleven years in a strange land, and had learned to concentrate their mental energies, and to bring them to

bear on this one purpose—on finding an asylum, where they could, without being molested, enjoy their religion in their own way.—The whole time of their exile was one continued training for the enterprise, both as to body and mind. Their great leader and patriarch, John Robinson, was a man of true evangelical piety, and of the most consummate political sagacity; his religious creed was simple and pure—the doctrines of his divine Master. He held in reverence the mighty names of the reformers, but he spurned the thoughts of holding on the skirts of the garments of mortal, sinful man, to raise him to eternal life, and he bade his followers beware of names. His parting blessing to the pilgrims should have a brighter glory than being written in letters of gold, in temples reared by hands; they should be written on the hearts of every Christian republican. His doctrines were the essence of human reasoning, aided by the lights of revelation. He implored them in the name of his Father in heaven; by all they suffered and by all they enjoyed, to become wiser and better. They followed his principles from love and duty; and every wind that lacerated the branches of the trees they planted, drove the roots deeper into the soil.

The first days of the Pilgrims were dark and sorrowful; before the return of spring, many of them had paid the debt of nature: mourning was in every family, and the cold and snowy bosom of the virgin earth had been consecrated by the ashes of their beloved dead, and hallowed by the hopes of the resurrection and the life to come, before the soil had been turned up for the planting of a single vegetable for their sustenance, or a flower had sprung from it by the hand of cultivation. Forty-four had died before the end of March, and the rest were weary and heavy laden with many cares; but the sickened soul has a communion with God that no language can reach; it rests on the promises of revelation, and has a foretaste of immortality.

The settlement of Massachusetts Bay, ten years after the landing of the Pilgrims, was in pursuance of the same great plan of enjoying their own thoughts in their own way. This expedition was on a ten-fold broader scale than the former, with a better digested system of operations, and, of course, was more successfully executed: but those settlers had days of sickness, of heart-ache, of hardships and trials; but in their march, they cheered the Pilgrims, and made their safety a common cause. The usual view of this subject is, that the settlement of New-England grew out of the religious persecutions in England, after the death of Elizabeth. I am not content with so confined a view, and will venture on a wider range of thought than this; for I consider the discovery and settlement of this country the greatest event in the history of man, saving and excepting the introduction of our holy religion; and I think I see through the vista of history the finger of God pointing to it for six centuries before its accomplishment. The crusades opened the drama; they did indeed exhaust Europe, ignorant and fanatical Europe, of her best blood and treasure; but they brought home many lessons of experience. They learnt much from the virtues of the infidels they went out to extirpate or proselyte.—In the Saracenic character was a sturdiness of virtue, far transcending that which passed well in the Christian world at that time, and that they were far better informed, cannot now be questioned. Every battle and all the bloodshed of the crusades sprung from the excitement which at that period awakened the human mind to action; and out of the sum of human errors were brought many true results. In the year 1453, the Turkish Emperor turned his sword on Europe; and Constantinople, so long the proud seat of the Greek Emperors, fell before his conquering arm. The Christian world was amazed and terrified beyond description: they saw in the standard of the Turk, a meteor, that was to blaze over Europe. Churches were to sink before minarets and mosques; and the Alcoran was to supplant the Sacred Scriptures: but short sighted man was disappointed most happily in this: the arms of the conqueror went no farther, and the seeming evil produced abundance of good.—The Mussulman drove out, from this ancient and lovely seat of learning, the Greek scholars and philosophers who had long congre-

gated there, and made them schoolmasters for all Europe. They brought out with them many rich manuscripts, which had been concealed from the greatest portion of the world for ages. Kings, nobles, and sovereign pontiffs contended with one another for the possession of these treasures; but while they were engaged in this noble strife, the art of printing was discovered; and almost faultless copies of the classics were multiplied, until the humblest scholar could enjoy the company of the poets and orators of ancient days, with the same freedom as the potentates of the earth.—From this moment the intellectual world was changed. This invention was at once the sign and the proof, that the world should never again be deluged by a flood of ignorance: not only were the classics disseminated, but the Scriptures also were put into every one's hands. The human mind began to throw off its shackles, and a spirit of free inquiry went abroad. Every one was active in the pursuit of knowledge. This was not all: about this time gunpowder which had been previously discovered, came into general use, in military and naval warfare, and the campaign was now more often decided by science and skill than by mere physical force.

This change in warfare was absolutely necessary to the settlement of this country, in order that the skill of the few should be equal to the strength of the many. This skill saved the New-England colonies in the Pequot war. If printing had not been discovered, in all probability, Columbus would not have received sufficient of the elements of geometry to have assisted him in traversing the Atlantic; and if fire-arms and cannon had not been in use, the handful of Spaniards would not have got a footing on the continent.

The discovery of the new world gave a new spring to human enterprise, opened new trains of thought, new paths of gain and of information. Man before this period was more dependent on his own thoughts for improvement than afterwards, when by a rapid circulation of books his mind became enriched by the rays of light from ten thousand other minds. Guided by these new impulses, he arose and swept away the thousand little errors of thinking, and grappled with dogmas, which in former days he feared to touch.—The sovereign Pontiff, whose ecclesiastical reign was not bounded by seas and empires, grew more proud by this extent of authority, and more lavish of his wealth, believing that the western world was full of gold.—Still the fulness of time had not come for planting a colony in New-England. It was necessary not only that man should become enlightened and polished, but that his morals should become stricter, and his reasoning powers made more acute and discriminating, before he could set out upon the doctrine of self-government, and to fix his own articles of belief. The awful responsibility of reasoning for one's self had not been for ages assumed. Scintillations of freedom of thought were seen here and there, when Luther burst in a blaze upon the errors of the Pontiff, the Church, and all who had sustained them. Like other reformers, he was often more zealous than wise, and sometimes labored harder to correct a folly, than to destroy a false principle; but his ends were noble, and his means honest, and primitive. He dared, single-handed, to pluck *the wizard beard of hoary error;* to meet the idols of wealth and power, with reason and scripture, as his only weapons. He wrestled with ignorance and sophistry; fought bigotry; and unappalled, met tyranny and oppression. With the natural courage of a Cæsar, he united the inflexible spirit of the Christian martyr. His labors were wonderful, and their effects still more so. In imitation of his divine master, he entered the temple with a scourge, and drove out the changers of money, the extortioners, and those who daily polluted the sacred fane. But one man, however great his powers, could not reform an age, or correct a church, grown callous and proud, and grasping at still greater sway over the minds of men. Another reformer followed with equal genius, and equal zeal. Luther attacked practices and habits; but Calvin, striving to root out false principles, plunged into the depths of metaphysics, and set the world to reasoning on all abstruse subjects. He came more to reform thoughts and opinions, than acts and deeds;

still he was not unmindful of these things. In the ways of God, *the wrath of man shall praise him;* so do his weaknesses, his follies, and his passions; the quarrel between Henry VIII and the Pope, was another cause of the advancement of true religion. Henry's case proved that all that was done on earth, by man assuming to be holy, was not ratified in heaven; for England flourished notwithstanding all the anathemas launched from the Vatican. After men had begun to reason for themselves in every part of Europe, sects grew up, and boldly assailed the established order of things. Some of them rose in frenzy, and died in shame; but others have continued, and will continue, because they were founded upon immutable principles. Among those who held their faith steadfast and immovable, were our Pilgrim Fathers; for their belief contained what no other creed ever did before—a declaration that it was susceptible of improvement, and with this frank avowal,—that God has more truth yet to break forth from his holy word; and it was their firm persuasion, that new lights would constantly arise, and new and refreshing views of the will of God would be given from the Scriptures; than man, as a religious being, was to be progressive, as well as an intellectual one. The Pilgrims were of the order called Puritans, and of the sect called Brownites; but the great divine at their head conjured them to sink the name, and they did so among themselves, after they arrived in this country; but the appellation of Pilgrims they retained with fondness; for the first child born among them, on these shores, they baptised Peregrine, in allusion to their wanderings.

Thus the moral, intellectual, religious, and political seed sown on these northern shores was as pure and as full of life as any ever sown on any soil in any age of the world. In examining the course pursued by the Pilgrims, every one must be struck with the strong moral honesty in their first intercourse with each other. A community of interests they soon found would not answer their purpose, and they came to an amicable understanding of having separate worldly interests, preserving the integrity of ecclesiastical, legislative, and military power. There were still so few of them for many years, and they were so closely connected in every thing, that they understood each other's minds, dispositions, and course of thinking as well as acting. They were truly one people, of one heart, and of one mind. Labor gave them muscular strength, and their habits of reasoning upon every thing, taught them sagacity and quickness of thought. The philosophy of man as a thinking and an immortal being, tried by the standard of the Scriptures—the nature of governments—the doctrine of equal rights—the duties of rulers—how far obedience to civil institutions should extend,—were constant topics of discussion in the labors of the field, in the chase over the hunting grounds, in the fishing smack, or on their travels in search of their foes. The constant alarm they were in for their personal safety, and the protection of their dwellings, instructed them in the true grounds of human courage—a confidence in themselves and in one another. Almost any man will fight bravely who is sure of the courage of his associates. They knew with whom they went out to fight, against whom they were to fight, and for what they fought; not only for their own existence, but for their wives and little ones. It was necessity that made them warriors; there was no prince or potentate to reward their valor; no spoil of an opulent enemy to gain and divide; no wreaths of glory; no huzzas of a grateful people were known to them. To fight well, was an every-day duty, and their ties grew stronger by every shock. They were anxious for their offspring, and not for their immediate descendants alone, but for more remote posterity. They wisely came to the conclusion, that a republican government could not be supported without a more than ordinary share of intelligence, and they set about establishing schools on the broadest basis; and declared, that as the community shared in the benefits of a general diffusion of knowledge, they should be at the expense of educating the whole mass of the children. In the seventeenth year of the settlement of Massachusetts Bay, (May, 1647,) they passed this ordinance, the most remarkable

on the page of history. It was at once a proud tribute to their ancestors, and a spirited determination of their own, not to suffer their descendants to degenerate. They ordered that every town containing fifty families or householders, should maintain a school, for reading and writing; and that every town that numbered one hundred families or householders, should support a grammar school. The reasons given, may seem quaint at the present day, but they are most admirable, and should never be forgotten. Some have attempted to take from them the honor of first establishing public schools at the common expense; this was a vain attempt; our records show the fact without difficulty, and we know that our records are true. The ordinance was carried into effect, if possible, in a more republican manner than one would expect from the very letter of the ordinance; for when a town was divided into school districts, each district was taxed in proportion to its property, and the school money was divided among the districts, in proportion to the number of persons in it. And this principle, in many parts of New-England, is still extant. The ordinance referred to runs thus: "It being one chief project of Satan, to keep men from the knowledge of the Scriptures, as in former times, keeping them in unknown tongues, so in these latter times, by persuading from the use of tongues, that so at least the true sense and meaning of the original might be clouded and corrupted with false glosses of deceivers; to the end that learning may not be buried in the graves of our forefathers in church and commonwealth, the Lord assisting our endeavors; it is ordered," &c. making the requisitions we have mentioned. In May, 1671, the penalty for neglect of this ordinance was increased; and in October, 1683, it was ordered, that every town, consisting of more than five hundred families or householders, should support two grammar schools and two writing schools. At the very threshhold of their political existence, a college was founded; and from that time to this, most liberally supported. The system of parish, town, and county government, gave all who strove for it, an opportunity to display their talents in some public way; there was no particular rank aside from the elective franchise, for the aspiring youth to bow to, for office or favor. A man must then have had regard to the feelings of a virtuous and an enlightened people to rise into power. The government was in its form simple; but there is more wisdom in simplicity, than in complexity.

The machinery of government was understood by all, for there were no concealed wires or hidden springs known to a favored few, but unknown to the mass of the people; and there was but very little party spirit existing among them. The good of the whole was the happiness of each.

For the first century their growth was slow, but solid and hardy. Their numerous wars and their traffic to the unhealthy climate of the West Indies, made great inroads upon the ranks of those just entering, and of those who had just entered into life. The whole community were like that class in other countries in which it has been said, that nearly all virtue and intelligence centres; in the class which has not reached opulence, and yet is above want.—Our forefathers put in no claims for ancestral honors or splendid alliances, but they were justly proud of a pure, honest blood; there were no left-hand marriages among them, and none of the poison of licentiousness, or the taint of crime. The women were as brave as the men, and a heroic mother seldom has a coward son. He who learns his lessons of valor on the knee of her who bore him, never shrinks from tales of fear, told by other tongues. Pure principles, early instilled into the human mind, where there are no evil communications to corrupt them, generally last through life. The other portions of New-England were settled principally by emigrants from the old colony and Massachusetts Bay, and possessed the same characteristics, and have retained them quite as well as the parent states.

Carver did not live long to enjoy this land of religious freedom, for after enacting a few laws, and making a treaty with the Indians, he died suddenly on the 23d March, 1621, and was succeeded by Mr. Bradford, as governor. Carver was a man of talents and integrity, and was a great

loss to the infant colony,—as these pioneers of religious and political liberty required all that was firm in purpose and steadfast in faith to surmount the difficulties that beset them.

CHARLES CARROLL OF CARROLLTON. This article on Mr. Carroll was written in July, 1832, several months before the death of the venerable patriarch, while he stood alone on the confines of time, surveying the graves of all his early coadjutors in the great cause of independence;—it was published in the New-York Mirror, and seemed acceptable, at that time, to the public, and all eyes were then turned upon him, as a g orious monument of by-gone days. The author of this sketch, and whose name is attached to this volume, was advised by his friends not to change a word of this sketch, as it seemed to be the last likeness taken of him while he could sit for it. The patriarch died in February following; and this event closed the line of the illustrious signers of the declaration of independence.

Charles Carroll, of Carrollton, was born on the 20th of September, 1737, at Annapolis, in the state of Maryland. He descended from a highly respectable Irish family, who had emigrated to this country in the reign of William and Mary, and were distinguished as patriots in the troubles of the colony, which soon after that period sprung up. For a while the Catholics were persecuted, and deprived of the right of suffrage; but, by a manly resistance to tyranny, they were restored to the privileges granted to them by charter.

At a very early age Charles Carroll, of Carrollton, was sent to St. Omars, to be educated; from thence, after a short time, he was removed to Rheims, to the college of Louis Le Grand; and from thence to one of the best institutions in France for the study of civil law. After becoming well versed in this science, more calculated than any other to expand the mind for the reception and discussion of great political truths, he passed over to London, and commenced his term at the Temple for the study of common law. This study sharpens the wits, and opens the great fountain of Anglo Saxon liberty to the patient investigator of English history. After finishing his studies and his travels, he returned to his native land at the ripe age of twenty-seven, and was hailed by the best judges as a well-read scholar and an accomplished gentleman. Foreign courts had not damped his love of liberty. At this period the discussions with the mother country and the colonies, upon great points of national law, had commenced, and soon were carried on with great warmth and pertinacity by both parties. Mr. Carroll did not hesitate for a moment, but took side with the lovers of liberty. He wielded a ready pen, and it was soon engaged in the glorious cause. Like others, he for some time did not wish to be known; but his writings were so satisfactory to his countrymen, that his secret could not long be kept. Some of his political antagonists were among the first men in Maryland. He foresaw that an appeal must be made to arms, and he boldly advanced his sentiments on this head, and recommended due preparations for such an event. At this time but few voices had been raised to this in any part of the country. Early in 1776, he was sent as one of a commission to Canada, to induce the people of that province to join us in opposing the mother country. The disasters which had previously befallen our arms in that quarter rendered the mission ineffectual. Mr. Carroll returned in June, 1776, and instantly repaired to the convention of Maryland, of which he was a member; and there, urging them to withdraw the instructions that body had given their delegates in congress, not to vote for independence, at length found his exertions crowned with success. Mr. Carroll was now appointed a delegate to congress, and, with his colleagues, was free to act upon the great question as they pleased. On the 18th of July, he presented his credentials to the continental congress at Philadelphia, and on the second day of August following, subscribed his name to the immortal instrument. He was considered now as one of the most fearless men of the age; for he had more to risk, in point of property, than any other man in the whole community, Hancock not excepted. On the first day he entered congress he was appointed to the

board of war, of which he was an efficient member.

During the whole of the perilous conflict, he bore his part with unabated ardor, often being at the same time a member of the convention of his native state and a member of congress; a double duty, which required great energy and industry to perform; but, so ably did he discharge his duties, that both bodies were satisfied with his attention to each. In 1778, he left congress, and devoted himself to the councils of his native state, but always with an eye to the great interests of the nation.

When the constitution of the United States went into operation, Mr. Carroll was elected a senator from Maryland, and took his seat at the city of New-York, at the organization of the government, on the 30th of April, 1789. He was elected a second time to this situation.

He was never an office-seeker, nor ever from caution or timidity flinched from any honest responsibility, in the darkest hour of the republic.

In the year 1801, he quitted public life, as far as such a man could do so. He had now reached his grand climacteric, and was willing and desirous that younger men should take the field of politics, hardly dreaming then that he was to enjoy another age of man, in the fulness of intellectual vigor. These last thirty years of life have passed away in serenity and happiness, almost unparalleled in the history of man. He has enjoyed, as it were, an Indian summer of existence, a tranquil and lovely period, when the leaves of the forest are richly variegated, but not yet seared; when the parent-bird and the spring nestling are of the same flock, and move on equal wing; when the day of increase and the day of the necessity of provision are gone; when the fruits of the earth are abundant, and the lakes of the woods are as smooth and joyous as if reflecting the bowers of Eden. Such an Indian summer has this patriot enjoyed; his life has been thrice, yea, four times blessed; blessed in his birth and education, in his health, in his basket, and in his store; blessed in his numerous and honorable progeny, which extends to several generations; blessed in the protracted measure of his days, in which have been crowded the events of many centuries; and blessed in the wonderful prosperity of his country, whose population has since his birth increased from nine hundred thousand souls to more than twelve millions, enjoying the blessings of freemen. It is, perhaps, from the fact, that the world think it quite enough for one mortal that he should be virtuous, prosperous, and enjoy a green old age, that an analysis of his intellectual powers, or a description of his rare attainments, has seldom been attempted; but talents and attainments he had, that made him one of the most successful of the business-men of the momentous period in which he lived—a period when that which the head conceived the hand was ready to execute. There were too few at that time, and those too zealous, to make the proper division of labor. The senator armed for the field, and the soldier, met with the Conscript Fathers.

Mr. Carroll was an orator. His eloquence was of the smooth, gentle, satisfactory kind, delighting all and convincing many. It is not pretended that, like John Adams, he came down upon his hearers as with the thunderblast from Sinai, raising the tables of independence on high, and threatening in his wrath to break them if they were not received by the people; nor that, like Dickenson, he exhausted rhetoric and metaphysics to gain his end, and was forever striving to be heard; but Carroll came to his subject well informed, thoroughly imbued with its spirit; and with happy conceptions and graceful delivery, and with chaste and delicate language, he, without violence, conquered the understandings, and led captive the senses of his hearers. All was natural, yet sweet and polished as education could make it. He never seemed fatigued with his labors, nor faint with his exertions. His blood and judgment were so well commingled, that his highest efforts were as easy and natural as if he had been engaged in the course of ordinary duties. This happy faculty still continues with the patriarch, for his conversation has now that elegant vivacity and delicacy, that characterized the sage Nestor of elder times, whose words

fell like vernal snows as he spake to the people.

His serenity, and in no small degree, perhaps, his longevity, may be owing to the permanency of his principles. In early life he founded his political creed on the rights of man, and reposing his faith in the religion of his fathers, he has felt none of those vacillations and changes so common in times of political or religious agitations. It were good for the nation that he should long continue amongst us, for in his presence all party feuds are hushed; and the demagogue, accustomed to vociferate elsewhere, in his vanity to be heard, talks not above his breath when the aged patriot is near. In a republic, where titles are not known, we ought to make a peerage of talents, virtues, patriotism, and age, that every youth may learn to admire, respect, and imitate the wise and good. With all our wishes and our prayers for his stay here on earth, the patriarch must soon be gathered to his fathers, and his name given to the historian and the poet. The bard shall then strike his harp and sing, "in strains nor light nor melancholy," but with admiration, touched with religious hope,

"Full of years and honors, through the gate
Of painless slumber he retired.
As a river pure
Meets in his course a subterranean void,
Then dips his silver head, again to rise,
And rising glides through fields and meadows new;
So hath Ulieus in those happy climes,
Where neither gloom nor sorrow shades the mind;
Where joys ne'er fade, nor the soul's power decay;
But youth and spring, eternal bloom."

Samuel Chase was born in Maryland, 1745. He was educated by his father, who was then a clergyman in Baltimore. He had a good classical education, and having studied the law, he settled in Annapolis, where he commenced his profession, in which he soon became distinguished. In 1774, he was a member of the Continental Congress, from Maryland, which station he held for several years. From the hour he entered into politics, he was looked upon as one of the most promising men in this country. He not only voted for the Declaration of Independence, but by his influence, persuaded Maryland, who had formerly been opposed to this step, to accede to the measure. He removed from Annapolis, in 1786, to Baltimore, where there was a wider field opened, for his professional exertions. In 1791, he was appointed Chief Justice of the court of Maryland. In 1796, he was appointed an Associate Judge of the Supreme Court of the United States, which office he held for fifteen years. In 1804, he was impeached, but acquitted by a constitutional number of his judges. The proceedings of courts of law, were not then as well defined, as at present, a species of tyranny was thought necessary for the dignity of a judge. The case is now in some measure different, but much is yet to be done, to ensure courtesy from the bench. His trial effected much good. He died the 19th of June, 1811. He was a man of genius, but unquestionably had some severity of character, which did not exactly suit the growing democracy of this country.

Benjamin Church, a famous American warrior, and highly conspicuous in fighting the Indians, was born in 1639, at Duxbury, Massachusetts. He was among that class of heroes, that in most all cases was successful. He never seemed to calculate on the number of his enemies, but whether his own little band had a sufficient quantity of provision and water, and were well provided with ammunition. This being satisfactorily ascertained, he dashed on to the pursuit. In 1676, he commanded the party which killed King Phillip. It was his masterly management, that secured this great aboriginal warrior With Phillip's death, this war, which had threatened the extermination of the whole population of New-England, was ended. After 28 years of quiet on his own farm, Col. Church was roused by Indian aggressions at Deerfield, and other places, and instantly, on the receipt of the news, mounted his horse, and rode to see Governor Dudley, to proffer his service for the campaign. His name was a host in this kind of fighting. His offer was accepted, and he scoured the eastern woods, and chastised the Indians and French, in the style of his early exploits. He grew corpulent, but would not restrain his movements to his size, and would venture to push his horse as if he was only forty; the animal stumbled and fell with him. In his fall, Col. Church broke a blood vessel, which in a few

hours, put an end to his life, on the 17th of January, 1718, in the 78th year of his age. He published a volume on King Philip's wars, written in a fine, good, old fashioned manner. This work has been reprinted within a few years, with valuable notes by the editor. To such men as Church, this country owes much, and their names should not be forgotten. They were more than heroes; they were patriotic citizen-soldiers, who left the plough at the sound of the war-whoop, prepared themselves for battle; and having dispatched, or driven off their enemies, returned again to the labors of the field with religious gratitude. They claimed no laurel, neither demanded they any ovation, that they had done their country some service, was enough for them.

De Witt Clinton was born in March, 1769, in Orange County, State of New-York. He was the son of James Clinton, a patriot, and soldier of the revolution. He graduated at Columbia College, in 1786, and immediately commenced the study of law, in the city of New-York. After having obtained admission to the bar, and practising a short time, he was taken into the office of his uncle, Governor Clinton, as his aid and secretary. He now plunged at once into politics, it being then a time of great political excitement. In 1798, he was chosen a member of the Senate of the State of New-York. In this body, young as he was, he soon became a leader. In 1802, Mr. Clinton was appointed a Senator of the United States, from the State of New-York, to supply a vacancy, occasioned by the resignation of General Armstrong. He held this office only a few months, but time enough, however, to take part in some important debates, and to show his talents, as a statesman, and an orator. In the fall of 1803, Mr. Clinton was appointed Mayor of the city of New-York, and succeeded Edward Livingston, who had declined another election. He continued in this office until 1807. During the four years of his mayorality, he was assidious in the discharge of his duties, and zealous in drawing plans for all sorts of improvements, in the city, sanitary, fiscal, and literary. He was again Mayor, from 1811 to 1815, and was as active as before. As regent of the University, he took an active, decided part in the promotion of science and the arts. He brought all his powers into the cause of disseminating learning throughout the State. The Academy of Fine Arts, and the Historical Society found him a patron, ready with his purse, his pen, and his influence in society, to assist them in building up their institutions. The great monument of Mr. Clinton's fame, is the Lake Erie and Champlain Canals. Not that the glory of this great work is his alone; he pretended to no such honor; but without his talents, his political influence, and his bold and manly struggle, for this great object, it would not have been undertaken at the time it was. He put his reputation at stake, to accomplish the object. No timid, creeping politician, would have dared to risk so much. After the canal was decided upon, and after the work had been commenced, there were times when his friends grew cold; and some of his coadjutors were dismayed, while his opposers grew insolent, as the clouds thickened; but Clinton never wavered in his opinions, or relaxed in his efforts, but in fact, redoubled his diligence, and went on to examine all the minute details of the work. In 1817, De Witt Clinton was elected Governor by a large majority of the suffrages of the people of the state, and was continued in that office, nearly all the time until his death. In 1825, Governor Clinton was offered the appointment of Minister Plenipotentiary to London, but declined it, preferring to stay at home and discharge his duties as Governor of the State of New-York.

De Witt Clinton died on the 11th of February, 1828, suddenly, but not unexpectedly, of angina pectoris. His death cast a gloom over the whole country, for almost every politician had marked him for high destinies in this nation. The numerous societies to which he belonged, went into mourning, and in some States eulogies were pronounced upon him, as a great man who had prematurely departed from the scenes of his usefulness. From the records of one of these societies the following extract is taken.

"Most Excl'nt Companion Knapp

from the Committee appointed on the subject of the death of Most Excellent De Witt Clinton, by the General Grand Chapter, made the following Report, to wit:

"The Committee, that had under consideration the subject of a proper notice of our bereavement in the death of De Witt Clinton, the first officer of this Masonic body, ask leave to report—

"That, as more than nineteen months have elapsed since this mournful event, in their opinion the customary funeral rites so consonant to the heaviness of recent grief, and so proper in their season, should be dispensed with at this meeting; as shrouding our council chamber in black, or wearing a badge of mourning for thirty days, would add nothing to the deep sense we feel at our loss, or fix more indelibly in our minds, the recollections of his services; but as no accident nor length of time, can ever efface, or blot out his name from the pages of his country's history, or lessen the weight of his character, we deem it most meet and proper, while in session for the first time after his death, to leave on our records a brief memorial of so great and good a man as our late High Priest, and also to tell the world how sincerely we loved him, and to give our successors, or those who may search our archives, hereafter, to understand what manner of man *we* thought him; *we*, who lived in his day, and were guided by his councils.

"For in him were united, exalted genius, profound acquirements, a happy tact in business, with great patience and unwearied industry. In the morning of life he took up the noble determination to be great, and to make *usefulness* the basis of that greatness.

"He came to the duties of a freeman when our Republic, exhausted with the struggles for independence, was attempting to fix our institutions upon the rights of man, and the principles of eternal justice, but there was often seen a timid hand and vacillating policy. In the conflict of honest opinions he boldly took his part, and if his zeal at times excited the fears of his followers, his patriotism won the hearts of his opponents.

"The portals of knowledge were then just opening anew, in this country, with the brightest promises, and he was charmed with all her paths. With the grasp of genius he held the lamp of science through the wanderings of literature, and the mazes of politics; and moral, political and literary institutions received advantages from his intellectual light: nor was he content to rest here, for he saw at a glance that Omnipotence when he stamped the features and marked the physiognomy of the earth, gave intimations to man that he might change and improve these features for his benefit:—His mind no sooner conceived than his soul was fired with the project, which he carried into effect; it was no narrow plan, no pitiful experiment, governed by village economy, or district politics: the design was worthy of a master mind, and the execution of an herculean arm; the seas of the wilderness were united with the Atlantic Ocean. He saw the labor finished, and heard the *voice of the people pronounce it to be good.* In the midst of these arduous labors he did not forget how much human happiness depends upon well regulated affections, and permanent charities, and he entered the pale of our order, and assumed the duties of master, almoner, and Priest; to teach the ignorant and to check the wandering; to feed the hungry, clothe the naked, and to implore blessings upon all mankind.

"He was morally, as well as physically, brave—and in the generosity of his nature pitied that miserable flock, who in the mild and peaceful day, turned their plumage to the sun for brilliant reflections to attract notice and gain admiration from the world; but who were not to be found when the elements were troubled: He poised his eagle-wing in the whirlwind, and fearlessly breasted the peltings of the storm.

"His enemies reviewing his life, are silent when they cast up the amount of his virtues, and his friends love him the more when they recount the deeds he has done: malice never charged him with avarice, nor did slander ever whisper that he could be corrupted by gold: if sometimes disappointed ambition in a paroxysm, at the loss of office, alleged that he was partial, in a calmer moment, she was forced to confess, that his errors

(for he was human and could not be free from them,) sprung from the irregular pulsation of a heart too warm; and from too much confidence in the professions of assimulated virtue; and even envy, that first wishes, and then believes all ill,—owns, since he is gone, that the only harvest he ever gathered in was glory; and all must acknowledge, that the only estate that he left for his orphan children is his fame.

"His exertions were not limited to the temporal welfare of his fellow men, for he knew that the excellency of all knowledge consists in divine truth, and he was unremitting in his efforts to disseminate the sacred writings, believing that in them are the oracles of God, and the promises of everlasting life.

"His death has been deplored as that of one who died too early;—but if the prominent deeds of men are so many mile-stones on the journey of life, *his* course cannot have been short who has set up so many monuments as he travelled onward to eternity; True, all was finished before age had required the sustaining staff, or the helping hand.

"Such was our companion and brother, the late chief officer of this General Grand Chapter. The pride of those who lived and acted with him, and an example for those who may hereafter arise to take a distinguished part in the welfare of our country.

"Let learned biographers write his life; let talented artists chisel his monument, and mould his bust for an admiring people, while we must content ourselves with a miniature profile of him, traced in a single moment, when kneeling at our altars; but there is some consolation for us in feeling that this sketch is made, as it were, upon our jewels, and is to be worn on our breasts, an emblem, a faint one indeed, of his image in our hearts.

"*Committee.*—Samuel L. Knapp, Joseph K. Stapleton, Jonathan Nye, Joel Clapp, Daniel L. Gibbins.

"Which was read, accepted, and the General Grand Secretary directed to present a copy thereof to the widow of the deceased."

George Clymer was born in Philadelphia, in 1739. He was early left an orphan. He was educated by his uncle, and gave evidence of high intellectual powers. He enlivened his uncle's counting room after his mind was well stored. He was a good merchant, but never was wholly devoted to his profession; preferring general science and literature to the details of a counting room. Clymer was a warm patriot from his early life, and took a decided part in the great questions of colonial liberty. He was sent to Congress in 1776, and though not in season to vote for the declaration of independence, he affixed his name to that memorable instrument, and it now stands with the daring worthies of that day. He was in Congress the next year. He suffered by the enmity of the foe. He was also at different times a member of the legislature of his native state. He died on the 23d of January, 1813, in the seventy-fourth year of his age. He was a good commonwealth man, active and cautious in all he did.

Cadwallader Colden, a man of most exalted genius and of high acquirements, deserves the gratitude of this country for his exertions in the cause of literature and science.—There can be no doubt that he was a true inventor, if not the original, of the method of stereotype printing. We have taken a sketch of his character from that truly valuable work "*The American Medical and Philosophical Register.*"

This truly eminent and worthy character, who united in himself the several qualities we are accustomed to admire in the physician, naturalist, and philosopher, was the son of the Rev. Alexander Colden, of Dunse, in Scotland, and was born on the 17th day of February, 1688. After he had laid the foundation of a liberal education under the immediate inspection of his father, he went to the university of Edinburgh, where in 1705 he completed his course of collegiate studies. He now devoted his attention to medicine and mathematical science until the year 1708, when being allured by the fame of William Penn's colony, he came over to this country about two years after. He practised physic with no small share of reputation till 1715, when he returned to England. While in London, he was introduced to that eminent philosopher Dr. Edmund

Halley, who formed so favorable an opinion of a paper on Animal Secretion, written by Dr. Colden in early life, that he read it before the Royal Society, the notice of which it greatly attracted. At this time he formed an acquaintance with some of the most distinguished literary and scientific characters, with whom he ever after maintained a regular correspondence. From London he went to Scotland and married a young lady of a respectable Scotch family by the name of Christie, with whom he returned to America in 1716.

In 1718, he settled in the city of New-York; but soon after relinquished the practice of physic, and became a public character: he held in succession the office of surveyor-general of the province, master in chancery, member of the council, and lieutenant-governor. Previously to his acceptance of this last station, he obtained a patent for a tract of land, designated by the name of Coldenham, near Newburgh, in this state, at which place he retired with his family about the year 1755, where he spent a great part of his life. Here he appears to have been occupied without interruption in the pursuit of knowledge, particularly in botanical and mathematical studies, at the same time that he continued his correspondence with learned men in Europe and America.

In 1761, he was appointed lieutenant-governor of New-York, which commission he held until the time of his decease, the administration of the government repeatedly falling on him by the death or absence of several governors in chief. His political character was rendered very conspicuous by the firmness of his conduct during the violent commotions which preceded the revolution. His administration is also memorable among other things for several charters of incorporation for useful and benevolent purposes. After the return of Governor Tryon, in 1775, he was relieved from the cares of government. He then retired to a seat on Long Island, where a recollection of his former studies and a few select friends, ever welcomed by a social and hospitable disposition, cheered him in his last days. He died in the 89th year of his age, on the memorable 28th of September, 1776, a few hours before the city of New-York was in flames, retaining his senses to the last, and expiring without a groan.

Dr. Colden began at an early period of his life, to pay great attention to the vegetable productions of America, in which delightful study his daughter afterwards became distinguished, and in honor of whom Linnæus named a plant of the tetrandrous class, *Coldenia*. This plant Miss Colden had first described. He was attentive to the physical constitution of the country, and left a long course of diurnal observations on the thermometer, barometer and winds He also wrote a history of the prevalent diseases of the climate, and if he was not the first to recommend the cooling regimen in the cure of fevers, he was certainly one of its earliest and warmest advocates, and opposed with great earnestness, the then prevalent mode of treatment in the small-pox.

In the years 1741—2, a fever which occasioned great mortality, prevailed in the city of New-York and created much alarm. He communicated his thoughts to the public on the most probable method of curing the calamity, in a small treatise on the occasion, in which he enlarged on the pernicious effects of marshy exhalations, moist air, damp cellars, filthy stores, and dirty streets: showed how much these nuisances prevailed in many parts of the city and pointed out the remedies. The corporation of the city presented him their thanks, and established a plan for draining and clearing out the city, which was attended with the most salutary effects. He published a treatise "On the Cure of Cancer." Another essay of his "On the Virtues of the Great Water Dock," introduced him to an acquaintance with Linnæus. In 1753, he published some observations on an epidemical sore-throat, which appeared in Massachusetts in 1735, and had spread over a great part of North America. These observations are to be found in Cary's American Museum.

When he became acquainted with Linnæus' system of botany he applied himself with new delight to that study. His descriptions of between three and four hundred American plants, were printed in the Acta Up-

saliensia. He published the "History of the Five Indian Nations," in 2 vols. 12mo. But the subject which drew Dr. Colden, at one time of his life, from every other pursuit, was what he first published un ler the title of The Cause of Gravitation, which being much enlarged, was republished by Dodsley, in 1751, in 1 vol. 4to. entitled, The Principles of Action in Matter, &c.

This book cost him many years of close and severe study.

Though his principal attention after the year 1760, was necessarily directed from philosophical to political matters, yet he maintained with great punctuality his literary correspondence, particularly with Linnæus of Upsal, Gronovius of Leyden, Drs. Porterfield and Whytte of Edinburgh, Dr. Fothergill and Mr. Collinson, F. R. S. of London. There were also several communications on mathematical and astronomical subjects between him and the Earl of Macclesfield. With most of the eminent men of our own country he held an almost uninterrupted epistolary correspondence. Among them we may mention the names of Dr. Garden, Mr. J. Bartram, Dr. Douglass, Dr. John Bard, Dr. Samuel Bard, James Alexander, Esq. and Dr. Franklin. With Dr. Franklin in particular he was a constant and intimate correspondent, and they regularly communicated to each other their philosophical and physical discoveries, especially on electricity. In their letters are to be observed the first dawnings of many of those discoveries which Dr. Franklin has communicated to the world and which so much astonished and benefitted mankind. In a letter to one of his friends Dr. Franklin gives an account of the organization of the American Philosophical Society, in which he mentions that Dr. Colden first suggested the idea and plan of that institution.

The numerous manuscript papers left by Dr. Colden at the time of his death, and which for many years were supposed to have been lost, have been lately found, and are now in the possession of his grandson, Cadwallader D. Colden, Esq. attorney general for the southern district of this state. They are chiefly on historical and philosophical subjects, and many of them are of the greatest value. Among these are observations on Smith's History of New-York, in a series of letters to his son, Alexander Colden. An Introduction to the Study of Philosophy. A corrected copy of his Account of the Fever which prevailed in New-York, in the years 1741—2. An Inquiry into the Principles of Vital Motion. A Translation of the Letters of Cicero, with an Introduction by C. Colden. Plantæ Coldenhamiæ in provincia Noveboracensi spontanea crescentes quas ad methodum Linnæi Sexualem, anno 1742, observavit Cadwallader Colden. A corrected and augmented copy of his Principles of Action in Matter. A Treatise on Electricity, &c. Besides these there is a great mass of correspondence on medical, philosophical, and literary subjects. A correspondence with Dr. Benjamin Franklin, from the years 1740 to 1757—with Linnæus from 1747 to 1751—With Gronovius from 1743 to 1755—with Dr. Garden, of South-Carolina, from 1748 to 1768—with Dr. W. Douglass, of Boston, from 1720 to 1747—with J. Bartram, of Pennsylvania, from 1742 to 1774—with Dr. Whytte from 1758 to 1763:—Letters to Dr. John Bard from 1747 to 1764, on the small-pox—correspondence with J. Alexander, of New-York, on the King's Council, from 1747 to 1764—with Mr. Collinson, of London, from 1740 to 1769—with the Earl of Macclesfield. In addition to all these, there are the manuscript copies of the works he has published, and innumerable letters to and from very celebrated persons of Europe as well as in America. These carry his correspondence back as far as the year 1710, and bring it down, almost uninterruptedly, till the time of his death. There are, too, a great variety of papers on public affairs, which must be considered as documents of primary importance, as they necessarily contain numerous facts which throw light on the history of this state. Dr. Colden was unquestionably a man of various and extensive learning, of superior talents, of the most indefatigable industry, and, indeed in many respects, his character will not suffer by a comparison with that of our illustrious countryman, Benjamin Franklin.

We are happy to announce that Cadwallader D. Colden, Esq. intends,

ere long, to offer to the public a biographical account of his venerable grandfather, together with a selection of the most important of his writings. Such a work cannot fail to meet with a hearty reception from the American people, and to afford another and durable monument of the talents, industry, and various acquirements of this celebrated physician and philosopher. It is proper, however, to add, that through the kindness and liberality of Mr. Colden, the editors are put in the possession of many highly interesting articles for publication, written by Dr. Colden, and that they will be given to the public through the medium of the Register.

Those who are desirous of obtaining farther particulars relative to this distinguished character will consult the American Museum, vol. 3d. the American edition of Dr. Rees's Cyclopedia, Hardie's Biographical Dictionary, the Port Folio, new series, vol. 3d. Dr. Miller's learned Retrospect of the 18th century, and the excellent New Biographical Dictionary of William Allen, lately published.

Every thing that relates to the art of printing is a matter of deep interest to us of the present day. We have had the honor of inventing improvements in presses, and of greatly facilitating the diffusion of knowledge. What has been done should be known, and who did it ascertained. Dr. Colden had turned his attention to this important subject.

"The Art of Printing," says the Encyclopedia Americana, "in regard to the processes used, is divided into xylographic, typographic, and stereographic. In xylographic printing, the writing is carved on wooden tables; they are then covered with ink, the paper is put upon them, and an impression is taken. This is the oldest mode of printing, and is still in use in China, Japan, and Thibet. Typographic printing is that in which single letters or types are used, which are properly arranged, and then the work is printed. For a short time carved letters were in use; but cast letters were soon introduced, and are still used. In stereographic printing, pages composed of many types are transformed, by casting, into plates, or tables, from which copies are printed. A mould of plaster is taken from a page of types, and from this the stereotype plates are obtained by casting. The Chinese, even in the reign of the emperor Wu-Wang, who lived about 1100 B. C., are said to have been well acquainted with xylographic printing; but the Japanese assume the merit of the invention. In Thibet, also, according to the accounts of various travellers, this art has been exercised from time immemorial. Although it had been the custom, for thousands of years to make impressions with seals on wax, which might have easily led to the invention of the art of printing, Guttenburg first made this discovery about three centuries and a half ago; for it may justly be questioned whether the Europeans had then any knowledge of the art of printing among the Chinese. Although it is not to be denied, that before the time of Guttenburg, and even in 1423, the art of cutting images on wood with a few lines of text, was well known. Three cities contend for the honor of the invention of typographical printing—Harlem, Strasburg, and Mentz."

"*An original paper of the late Lieut. Gov. Colden, on a new method of Printing, discovered by him; together with an original letter from the late Dr. Franklin, on the same subject; and some account of Stereotyping, as now practised in Europe, &c, by the Editors of the Register.*"

"NEW METHOD OF PRINTING."

"As the art of printing has, without question, been of very great use in advancing learning and knowledge, the abuse of it, as of all other good things, has likewise produced many inconveniences. The number of books printed on the same subject, most of which are nothing but unskilful and erroneous copies of good works, written only for ostentation of learning, or for sordid profit, renders the path to knowledge very intricate and tedious. The reader, who has no guide, and the greatest number have none, is lost in the wilderness of numberless books. He is most commonly led astray by the glaring appearances of title pages, and other artifices of the mystery of bookselling.

"It is likewise a common complaint, that a poor author makes nothing near the profit that the book-

seller does of his labor; and probably, the more pains the author has taken, the more difficult the performance, and the more masterly it is done, the less profit to him; for the good books, like jewels, never loose their intrinsic value; yet, they have fewer purchasers than Bristol stones, and the sale of them is slow.

"As the lessening or removing of some of these inconveniences, may be of use to the republic of letters, I hope to be excused in making the following attempt for that purpose, by proposing *a new method of printing*.

"Let there be made of some hard metal, such as copper or brass, a number of types, or rather matrices, on the face of each of which, one letter of the alphabet is to be imprinted *en creuse*, by a stamp, or such other method by which the matrices for founding of types are commonly made. They must be all of the same dimension, as to breadth and thickness, with that of types, but half their length seems sufficient. Their sides must be so equal and smooth as to leave no vacuity between them when joined. There must likewise be a sufficient number of each letter or character, to compose at least one page in octavo, of any book.

"These matrices, I suppose, may be cast in a mould, or plate of copper, may be divided exactly into squares, and the letter or character be stamped into the middle of each square, and the squares afterwards cut asunder by a proper saw. The best method of making these will be easily discovered by those whose business it is to make founts for printing types.

"When a sufficient number of each letter and character is obtained, they are to be placed in the same manner that types are, when composed for printing, only that they must all stand directly as they are read, and as they will appear afterwards on the paper.

"The composure of one page, after it is carefully corrected, is to be placed in a case or mould, fitted to it, of the length and breadth of the page, and of such depth as to cast a plate a quarter of an inch thick, which will perfectly represent a page composed in the common manner for printing.

"As to the art of casting the plate perfect, founders and type makers must be consulted; for the composition of the metal, and for the flux for running it clean and clear, so that no vacuities be left; for which purpose, I am told, that the funnel, by which the melted metal is poured in, being made large, and the filling it with the melted metal after the mould is full, is of use to make the letter every where full and complete. For, by the weight of the metal in the funnel, the liquid metal in the mould is pressed into every crevice. The funnel's extending the whole length of one of the sides, gives, likewise, free vent to the air.

"Or, after a page shall be composed as before mentioned, and the types and matrices well secured in a frame upon a strong plate, they may, by a screw, be pressed upon a sheet of melted lead, and thereby a plate of lead be procured, representing as the former a page composed of types for printing. Which of the methods are most practicable artists can best determine.

"After the page shall be thus formed the matrices may be loosened and dispersed into their proper boxes, and may serve for as many other pages as types in common printing do.

"When a number of pages, sufficient for a sheet, are thus made, they may be carried to any printing press, and such a number of sheets as shall be thought proper be cast off, and then be laid by till more copies be wanted.

"I choose an octavo page, because, if the page title and page number be left out, as likewise the directions and signatures at the foot of the page, by joining two pages together, it may be made a quarto, or by joining four, a folio. Thus several editions in octavo, quarto, and folio, may at once be made, to suit every buyer's humor.

"The page titles, number, and bottom signatures may be cast in small moulds apart, and joined, as may be proper.

"The most convenient size of a page is that of small paper, so as to fill it up, and to leave very little margin; then by adding the page titles, or marginal notes, or notes at the bottom, all cast in frames separately, the large paper may be sufficiently filled.

"I believe that this method of printing, every thing considered, will not be more chargeable than the common method. A thousand, or some thousands sometimes, of copies, are cast off at once in the common method, and the paper and pressman's labor of what is not speedily sold may, or must lie dead for some years, whereas in this method, no more need be cast off at a time than may well be supposed to sell speedily. If I be not mistaken, the metal necessary for one sheet will not exceed the value of four hundred sheets of paper, and in the common method several hundred sheets lie useless for, sometimes, many years. If the book should not answer, there is a great loss in the paper, whereas the metal used in this method retains its intrinsic value.

"I shall instance some of the advantages in this method which induce me to communicate my thoughts to others.

"1. An author by this means can secure the property of his own labor.

"2. A correct edition is at all times secured, and therefore may be useful in the classics, trigonometrical tables, &c.

"3. A weak and ignorant attempt on the same subject will be discouraged, for as a new edition of a valuable book is continually secured, without any new expense, booksellers will not readily hazard the publishing of books of the same nature.

"4. But what I chiefly value this method of printing for, is, from the advantages it gives an author in making his work perfect, and in freeing it from mistakes; for, by printing off a few copies of any sheet, and sending them among his friends, and by suffering them to fall into the hands of a malevolent critic, he may have an opportunity of correcting his mistakes, before they appear to the world. By the same means he may make his work more complete than otherwise he could, by the assistance which his friends may give him in several parts of it. It is for these reasons chiefly, that I propose the plates not to exceed an octavo page, and to have no signatures; for in case of a mistake, the loss of one page may correct the error, and where improvements or additions are necessary, as many pages may be intermixed as shall be necessary, without any inconvenience, and small explications may be made by the marginal notes.

"Lastly. The greatest advantage I conceive will be in the learned sciences; for they often require a long time to bring these to perfection, and require the assistance of others in many particulars. Many a valuable piece has been lost to the world by the author dying before he could bring his work to the perfection he designed. Now, by the assistance which he may have by this method from others, this time may be much shortened, and the progress he has made may be preserved for others to continue in case of his death. An author may publish his work in parts, and shall continue, in many cases, to complete and make them more perfect, without any loss of what was done before. By this method likewise, a man of learning, when poor, may leave some part of his estate in his own way for a child, as mechanics often do for theirs.

"Whether the method I propose will answer the end designed, or whether it be practicable, I cannot with sufficient assurance say; because we have no artists in this country who can make the experiment, neither can they have encouragement sufficient to tempt them to make the trial. However, I hope to be excused, by the use of the design, and as it may chance to give some hint to a skilful person to perform effectually what I only aim at in vain.

"If the charge of lead or metal plates be thought too great, I know not but that the impression may be made on thin planes of some kinds of wood, such as lime tree or poplar, which have a soft smooth grain when green, and are hard and smooth when d y.

"Ever since I had the pleasure of a conversation with you, though very short, by our accidental meeting on the road, I have been very desirous to engage you in a correspondence. You was pleased to take some notice of a method of printing which I mentioned to you at that time, and to think it practicable. I have no further concern for it than as it may be useful to the public; my reasons

for thinking so, you will find in the inclosed copy of a paper which I last year sent to Mr. Collinson, in London. Perhaps my fondness for my own conceptions may make me think more of it than it deserves, and may make me jealous that the common printers are willing to discourage, out of private interest, any discovery of this sort. But as you have given me reason to think you zealous in promoting every useful attempt, you will be able absolutely to determine my opinion of it. I long very much to hear what you have done in your scheme of erecting a society at Philadelphia for promoting of useful arts and sciences in America. If you think of any thing in my power whereby I can promote so useful an undertaking, I will with much pleasure receive your instructions for that end. As my son Cadwallader bears this, I thereby think myself secured of the pleasure of a line from you by him."

Philadelphia, Nov. 4, 1743.

SIR—I received the favor of yours, with the proposal for a new method of printing, which I am much pleased with; and since you express some confidence in my opinion, I shall consider it very attentively and particularly, and in a post or two, send you some observations on every article.

My long absence from home in the summer, put my business so much behind hand, that I have been in a continual hurry ever since my return, and had no leisure to forward the scheme of the society. But that hurry being now near over, I purpose to proceed in the affair very soon, your approbation being no small encouragement to me.

I cannot but be fond of engaging in a correspondence so advantageous to me as yours must be. I shall always receive your favors as such, and with great pleasure.

I wish I could by any means, have made your son's longer stay here as agreeable to him, as it would have been to those who began to be acquainted with him.

I am, Sir, with much respect,
Your most humble servant,
B. FRANKLIN.

Dr. Colden.

The mode of printing above described is now known by the term *Stereotype;* and it is a curious fact that the stereotype process, said to have been invented by M. Herhan in Paris, and now practised by him in that city, under letters patent of Napoleon, is precisely the same as that spoken of by Dr. Colden, more than sixty years ago.

It is more than probable that when Dr. Franklin went to France, he communicated Dr. Colden's "new method of printing" to some artists there, and that it lay dormant until about sixteen years since; when Herhan, a German, who had been an assistant to M. Didot, the printer and type founder of Paris, but then separated from him, took it up in opposition to M. Didot. We have conversed with gentlemen who have seen M. Herhan's method of stereotyping, and they describe it to be exactly what Governor Colden invented. This fact established, there can be no doubt that M. Herhan is indebted to America for the celebrity he has obtained in France.

Since the above papers fell into our hands, we have endeavored to obtain information respecting the different methods of stereotyping now in use. The following is the result of our enquiries.

By a book published in Paris about ten years since, by M. Camus, of the French national Institute, we find that a Bible was printed in Strasburg, by one Gillet, more than a hundred years ago, with plates similar to those now used by Didot and Herhan, but not by any means so perfect. Gillet's moulds were made of a fine clay and a particular kind of sand found only in the neighborhood of Paris. It is also stated that a number of other ingenious men had at various times produced plates tolerably perfect, by different processes, but we may safely infer, from the art having made no great progress until the time of Didot the elder, that their endeavors had not been crowned with much success.

At the beginning of the French revolution great quantities of paper money becoming necessary to supply the deficiency of specie either concealed or sent out of the kingdom by the rich, Didot was applied to by the national assembly to invent some kind of *assignat* or bank-bill, which should not easily be imitated; and at

this period it was that M. Didot first directed his attention to the means of producing, *in relief*, a set of plates, to print on a common printing-press, which were exactly *fac-similes*, and could not without much difficulty be falsified. This process was termed Polytyping; as the mould in which the plates were cast was durable, and would produce any number of copies; the usual mode of stereotyping being, as the French term it, *a moule perdu*; it being necessary to make a new mould for every plate.

But as M. Didot's views were by degrees extended to the casting of pages for book printing, he found it unnecessary to use durable moulds, and therefore, after a year's experiment, invented a composition, which, like the sand used by brass-founders, might be wrought over again for different casts. The elegant editions produced by M. Didot and sons, are the best proofs of his success.

When the fame of M. Didot's invention reached England, Lord Stanhope, an ingenious and wealthy nobleman, whose time and fortune are principally devoted to the advancement of the arts, made propositions to Mr. Andrew Wilson, of Wild Court, Lincoln's Inn Fields, proprietor of the Oriental press, to assist him in such experiments as might bring to perfection a new mode of stereotyping, of which his lordship had obtained some ideas. Mr. Wilson embraced the proposal; and after four or five years of incessant labor, they attained nearly all the advantages they had contemplated. Mr. Wilson, in the year 1802, built his foundry in Duke-street, Lincoln's Inn Fields, and in the following year disposed of the secret for six thousand pounds sterling, and some future advantages to Mr. Richard Watts, for the use of the University of Cambridge. In the year following he disposed of it on similar terms to the University of Oxford.*

About two years ago, a brother of Mr. Watts of Cambridge, began a course of experiments in this city for a more cheap and easy manner of stereotyping, than any hitherto discovered; and, in spite of innumerable disadvantages, has succeeded beyond his utmost expectation. We have seen plates of his casting of the greatest perfection and beauty. The chief difficulty he has experienced arose from the jealousy and illiberality of the common type-founders, who refused to lend the little aid he required of them. It is agreeable to us, however, from our own observation, to be able to state, that, by uncommon perseverance through accumulated obstacles, Mr. Watts has invented a method of casting the common types much more perfect than those made in the usual way; and now will proceed with his plates without the assistance of other artists.

The principal defects in M. Didot and Lord Stanhope's processes, arise from the softness of the moulds they employ, which are composed of plaster of Paris and some other ingredients. In taking them from the page, of which they are intended to cast a perfect copy, some part of the composition will always remain in the type, and leave the mould imperfect. After the plates are cast, there is consequently much work for an engraver, to make them fit for use. Mr. Watts' mould, being of solid materials, no such inconvenience can arise.

Elisha Cooke, and Elisha Cooke, Jun. The history of the two Elisha Cookes, is interwoven with that of the colony at the period in which they lived. Elisha, "the father," early in life took a deep interest in public affairs, and at the time of the charter dispute in 1680, was the leader of the popular party in the General Court. They were opposed to sending agents to England, to submitting to acts of trade, and were for adhering to the old charter, according to its practical construction. "The ill-concealed joy" of the people of Massachusetts at the fate of Charles I. was not forgotten by his son, and in 1776, Edward Randolph was sent over with "Enquiries" concerning the state of the colonies. This man was an active and implacable enemy of New-England. In February, 1681, he exhibited to the lords of the council, articles of "high misdemeanor against a faction of the General Court," among whom was Elisha Cooke. In May, 1681, in a

* The two Universities of England, have the exclusive right of printing Bibles and Prayer Books. Twenty or thirty presses are generally employed in that business alone; the classic departments requiring many others.

letter to the Bishop of London, he says "If commanded, I will readily pass the seas to attend at Whitehall, especially if Danforth, Gookins, and Nowell, magistrates, and Cooke, Hutchinson, and Fisher, members of their late General Court, be sent for to appear before his majesty." In 1682, he wrote to the Earl of Clarendon—"His majesty's *quo warranto* against their charter, and sending for Thomas Danforth, Samuel Nowell, a late factious preacher, and now a magistrate, and Daniel Fisher and Elisha Cooke, deputies, to attend and answer the articles of high misdemeanors, I have now exhibited against them, will make the whole faction tremble." The misrepresentations of Randolph, aided by others—for the colony had its enemies from the beginning—made such impression, that the agents considered the situation of Massachusetts as desperate. It now became a question whether it was advisable to submit and surrender the charter at once, or to refuse, and suffer a *quo warranto* to issue against them. Many colonies and city corporations had submitted. The principal clergymen were consulted according to ancient usage, and their opinions were against submission. The clergy in New-England, commonly called ministers, were always the firm supporters of the rights of the colony against the arbitrary claims of the mother country. The General Court resolved not to surrender, thinking it better "to die by the hands of others than their own," and the agents were instructed "to make no concessions of any privileges conferred upon the colony by the charter." Upon receiving this resolution of the General Court, a *quo warranto* was issued and sent over by Randolph, the evil genius of Massachusetts, and at the same time it was declared by the king, that if the colony before prosecution would make full submission and entire resignation to his pleasure, no further alterations should be made in the charter, than should be necessary for the support of this government. The Governor and majority of assistants, despairing of a successful defence, passed a vote of submission. This was acted upon by the house as follows:—

"Nov. 30, 1683. The Deputies consent not, but adhere to their former bills.

WILLIAM TORREY, *Clerk*."

The issue is well known: judgment was obtained against the colony, and the charter decreed to be forfeited. In all these measures Cooke took a leading part. In 1685 and 1686 he was chosen assistant in the place of one who had voted for submission.

The government being now dissolved, a commission was sent to Joseph Dudley, as president, and several others as his council. The General Court unanimously refused to assent. The government was conducted principally according to the usages of the colony under the old charter, until the arrival of the arbitrary Andross, in 1686. His conduct went far towards justifying the jealousy which the people had entertained of their charter rights. James II. who appointed him, vested him and his council with all powers executive and legislative. Randolph was prime minister, licenser of the press, secretary, &c. They laid what taxes they pleased, and punished with severity such as refused obedience, and this was *then* complained of by the people as their greatest grievance. "They thought themselves entitled to the liberties and immunities of free and natural born English subjects, and that consequently, no money ought to be raised from them but by their representatives." He declared all titles to estates to be forfeited, and that the soil had reverted to the crown.

This people, hitherto free, were now subjected to the rigor of despotism. They were told by judges on the bench, that the only privilege left them, "was not be sold as slaves, and that the benefit of the laws of England did not follow them to the ends of the earth." (Minot's Hist. 55.) The utmost alarm was excited, and Mr. Increase Mather departed secretly, to represent their grievances to the King—but all exertions were in vain. Opposition by force would have been hopeless, but there was universal restlessness and indignation among the people. The smothered flame was silently spreading, and gaining strength, when upon a *rumor* of the landing of the Prince of Orange it burst forth—The Governor with the most active of his council

and other obnoxious persons, were seized, and the old magistrates restored. This is one of the most remarkable events in our history. It was a bold, and perhaps rash attempt, and shows how much our ancestors could hazard in the cause of liberty. Had the news proved false, or the revolution in England failed of success, it would have been fatal to the principal persons engaged, among whom was Cooke. But they felt that they were oppressed, and did not deliberate coolly upon the danger of their undertaking—this might have prevented the attempt, as it would perhaps that of their descendants in 1775.

Cooke, with the aged Gov. Bradstreet—whom it was thought prudent to place at their head—and others, demanded "the surrender of the government and the fortifications," which was complied with. A provisional government was then established, which continued until certain information was received of the revolution in England, when the government went into operation as under the old charter. Sir Edmund Andross and the others who had been confined were ordered to England, and the General Court resolved to send over two additional agents to support the charges against them, and to solicit the restoration of the charter. Cooke and Thomas Oakes were chosen, both of them assistants. Hutchinson (1 vol. p. 349) says, "Mr. Cooke had always stiffly adhered to the old charter, and when all the rest of the assistants declined reassuming it, he alone was in favor of it."

We shall see that he preserved his consistency in his adherence to the old charter. They were instructed "to solicit in parliament, or elsewhere, the confirmation of their ancient charter, and all its rights and privileges, civil and sacred."

The charges against Andross were brought before the privy council, but were soon dismissed, owing to some disagreement among the agents, and to the course recommended by their counsel. Nor were they successful in the principal object of their mission, the restoration of the old charter. When it was found impossible to obtain this, the other agents (Sir H. Ashhurst, Mather, and Oakes) petitioned for a new one, but Cooke refused. Even in the presence of the King, when a new one was proposed, his brief and energetic reply was, "May it please your majesty—the old charter or none." When the new charter was first presented to them, Mr. Mather declared that he would rather part with his life than consent to it. They remonstrated—but in vain. The only question then was, whether they would submit to the new settlement, or have no charter. Cooke continued firm to his principles—"The old charter or none." He claimed it as a right; that it had been unjustly taken away, and ought to be restored. He did not act with the other agents in any measures for obtaining a new charter, but refused to accept it. Sir William Phipps, who was appointed governor, brought it over, it was accepted by the General Court, and went quietly into operation. The *old charter* party continued many years, but gradually disappeared, as the people became accustomed to the new.

Cooke was left out of the Council named in the charter, but was chosen at the first election under it, 1693; a proof of the approbation, by the General Court, of his conduct in England. He was however rejected by Governor Phipps, because he had opposed his appointment. Hutchinson says "the rejection was impolitic, because he was in real esteem with the people," and that "it made him many enemies even among those who had not opposed the acceptance of the new charter."

Upon the removal of Gov. Phipps in 1694, the election of Cooke to the Council was approved by the Lieut. Gov. Stoughton, and he continued there during the four years of his administration, and also during the administration of the Earl of Bellamont, with whom he had corresponded before his arrival in Massachusetts.

Governor Dudley had not forgotten that Cooke was one of those who committed him to prison with Andross, fifteen years before, and he struck his name from the list of the council. Hutchinson says—

"With Governor Dudley began the memorable controversy concerning *fixed salaries*. It was unfortunate, that the subject was introduced

by him, as the prejudices against him were great. He had been president of the Council under Andross, and one of his principal advisers. He had been opposed to the restoration of the old charter, and was generally considered as an enemy even to the privileges of the new. The people were not disposed to establish an honorable salary for him. Cooke was the leader of the opposition, and the Governor persisted in negativing him until 1715, when he was expecting his removal from office. Doctor Cooke died the same year, October 31st, aged seventy-eight.

He was respected as a physician, but most remarkable in his political character, having been more than forty years in places of public trust, and always firm and steady in his principles. He was a singular instance of a popular leader preserving his influence with the people, without diminution. He was always a favorite, and perhaps because he was never a demagogue. Popularity was not his object. He was firm, honest, and consistent in his principles and conduct, and that popularity which he never run after, followed him.

Elisha, the son, also a physician, was an influential member of the House, before the death of his father. In 1714, the Province was in great agitation from the state of the currency. Various projects were formed for relief, among others a private bank, at the head of which was Cooke. The plan was to form an association, which should issue bills, for the payment of which real estate was to be pledged as security. Political economy was not then known as a science, and the system of banking but little understood.

The controversy in which the father had passed his days was inherited by the son. Gov. Shute was the object of his hostility as Dudley had been of his father. Shute found Cooke in the Council. The expression of some opinions—for he was a fair and open enemy—soon gave offence to the Governor, who procured his removal from the office of Clerk of the Supreme Court. A contest arose about the same time between the king's surveyor and the inhabitants of Maine, concerning the property in white pine trees, in which Cooke took a part, published a pamphlet, and sent a memorial to the General Court. The Surveyor also sent his memorial. Cooke had great influence in the House, and this dispute was the beginning of the public controversy, which continued until the end of Shute's administration;—parties were formed, new subjects of contention arose, until at length he was obliged to withdraw from the Province. At the next election of the Council, the Governor rejected Cooke—the House took his part warmly, and condemned the proceedings of the Surveyor. In 1719, such was the contention between the Governor and the House, that he dissolved the Assembly.

Gov. Hutchinson says that the contests and dissentions were greater in 1720, than they had been since the religious feuds of 1636. Cooke was chosen speaker—the Governor negatived him and requested the House to reconsider the subject and elect another person, and after debate the House voted unanimously to adhere to their first election. Several messages passed between them, and the Governor again dissolved the House. A new Assembly was called, and it being necessary to proceed with the public business, the House,—with an express reservation of right—chose Timothy Lindall of Salem, speaker, a man of the same party, but not so obnoxious to the Governor as Cooke.

The controversy concerning the Governor's salary was also continued. The grants had been made semi-annually, but they were now not only reduced in amount, but delayed beyond the usual time. Instead of an established salary of 1000*l.*, which he was instructed to demand, he was reduced to less than 400*l.*, and that depending on occasional grants. But it is not necessary to enlarge on this most memorable and unhappy contest, which became open and general. Whatever the Governor recommended the House disregarded; frequent communications were made from one to the other, but the difficulty increased, until the Governor withdrew from the Province in December, 1722.

The controversy was not perhaps strictly justifiable on the part of the House, at least in the extent to which it was carried, but it was commenced by Shute, in his negativing Cooke's

election to the Council, and as Speaker, from personal prejudice.

Articles of complaint were exhibited by Gov. Shute against the House for encroaching on his Majesty's prerogative, in seven instances. After much altercation between the Council and the House, it was agreed to send over an agent, and Dr. Cooke was chosen by joint vote. Soon after his arrival in England, Shute exhibited another memorial, complaining among other things, of their choosing him as agent, "who had been at the head of all the measures complained of in the first memorial." Nor did the Council escape his censure for consenting to choose the agent by joint ballot, "in which mode they must have known Mr. Cooke would be chosen." Divers hearings were had, but the decision was unfavorable to the House, and ended in the explanatory charter of 1724, declaring the right of the Governor to negative the Speaker, and limiting the power of the House to adjourn themselves, to two days.

The House approved of Mr. C's. conduct, though unsuccessful, and again chose him into the Council. The pacific Lieut. Gov. Dummer approved of the choice.

It is not surprising that Cooke and his associates, after experiencing the ill success of the controversy with Shute, should have been desirous of more tranquillity under his successor. Gov. Burnet resided at his house on his first arrival, and the commencement of his administration seemed auspicious, but in his first speech, the Governor began upon the subject of a fixed salary. The contest was again renewed—its character was changed—it became less personal and more argumentative, and was conducted with great spirit and ability on both sides. On the part of the House it was principally managed by Cooke. The Governor tried the expedient of removing the General Court to Salem, but it only increased the difficulty by adding another subject of contention. Gov. Burnet died in 1729.

Gov. Belcher who succeeded to the chair, had once been on the prerogative side, but had recently been in favor with the Province. Both parties were now wearied with the long continued controversy, and endeavored to devise some plan of conciliation. For this purpose Cooke drew a bill granting 1000*l.* and urging for special reasons that it should be continued during his administration, and providing that it should not be pleaded as a precedent; it was approved by the Governor, but did not pass into a law. This was the first event in his life which had even the appearance of inconsistency, or lessened the confidence of the people in him. They are always ready to take the alarm, and become jealous of their favorites, but the father and son had preserved the popular favor more than sixty years. Now he was accused of seeking the good opinion of the Governor, and obtained his election as representative by a majority of one or two votes only.

The Governor despairing of obtaining a fixed salary, at length, in 1733, procured his majesty's permission to receive such grants as should be made—and thus ended that great controversy, the most memorable and interesting in our colonial history. It had continued nearly half a century, and been maintained with unyielding constancy by the Province, against the instructions of the King. These events are regarded by many with little interest, as the passing affairs of a little colony, at a remote period, without perceiving their bearing on the present state of the country. But their influence upon the revolution was very important, as the people were in this way accustomed to support their rights, however unequal the contest, and became trained for the great controversies that succeeded. The refusal to grant a fixed salary was supported by many of the arguments, which were afterwards used against the right of taxing the colonies. These early contests were the germ of the revolution. The character of the people was formed—they were disciplined to a love of liberty, and resistance to encroachments on their rights and privileges. In the old charter disputes, we see the same spirit, which afterwards hazarded all for charter privileges in 1775. While then we value our civil liberty, and our independence, we should hold in grateful remembrance the early patriots of our country—such men as the first Cooke, who would have this infant colony make "no concession

of any privileges conferred by the charter," and who would say even in the royal presence, "the old charter, or none!" Had he taken counsel of prudence only—perhaps even of good policy, he would have yielded; but who does not admire that adherence to truth and justice, "leaving the event to Providence?" It is not easy to foresee the consequences of yielding a principle. Had our ancestors conceded in the early contests with the crown, it is not probable they would have resisted the moderate taxes which were afterwards laid, and which seemed for the purpose of establishing a precedent, rather than raising a revenue.

The discriminating Eliot, in his Biographical Dictionary, remarks, that "Hutchinson, though the great friend to Dudley, Burnet, and other Governors on the side of prerogative, uniformly gives praise to the Cookes. He says they were both fair, honest men, open in their conduct, and acted from a love to their country. It is some credit to him as an historian, that he should delineate so fairly the characters of men, who certainly were the most zealous republicans that ever acted their parts in Massachusetts Bay." They were men of ardent feelings—formidable enemies—but always frank, honorable and undisguised. They were men of strong, inflexible character, of great energy of mind, and consistent in their political conduct, and should hold a high rank among American patriots. Nor should we neglect to notice, that in private and domestic life, they were mild, amiable and affectionate. The compiler of this sketch remembers to have heard an aged person, who had the best means of information, say, that the last Elisha Cooke left all controversy at the threshold of his habitation, and that at home he was the beloved husband, father and friend.

Elisha was the son of Richard Cooke, who came from Quedsley, in Gloucestershire, in 1634, and was a merchant in Boston. He left a legacy of 50*l.* to Harvard college. His only child, Elisha, was born November 16, 1637, and graduated at Cambridge in 1657. He married a daughter of Governor Leverett. Elisha, his only son, was born December 20, 1678, and graduated in 1697. He married a daughter of Richard Middlecott, Esq. one of the council appointed in the second charter.

Middlecott, his only son, graduated in 1723. The contest in which the lives of his father and grandfather were passed, excited a disinclination to public life in him. He took but little interest in political concerns, and passed his days in peace and hospitality, beloved and respected by a circle of friends, at the mansion of his father,* the venerable stone house lately standing in front of the new Court House, Boston. Middlecott Cooke was never married. A daughter of the last Elisha was married to the Honorable Richard Saltonstall, of Haverhill, Massachusetts, whose descendants are the only posterity of the Cookes.—*L. Saltonstall.*

John Singleton Copley, an American painter, a self-taught man, was born in Boston, in 1738. In early life he discovered the talent that proved to be his future profession. His sketches attracted the attention of Smibert, a painter who had come to this country before the birth of Copley, and who died before he could have been of much service to him. He painted most admirably, for he followed nature, and was not shackled by any rules from the Academy. His success was so great in the portrait line in Boston, that he accumulated sufficient property to enable him to go to Italy, to improve his hand by examining the works of the great masters. But it is thought that he did not improve much by studying models of art, instead of nature. His profession in connexion with a naturally kind heart, made him a man of peace, and he often appeared in the town meetings in Boston, to soften by his eloquence the asperity of party. It is said that he was speaking in town meeting, when the men dressed as Indians, passed down to the vessel to destroy the tea in Boston harbor. In 1774, he left Massachusetts for Italy. The troubles of the colonies were increasing; when he had finished his tour on the continent of Europe, he made up his mind to stay in England, and in 1775,

* The frequent political meetings at that house, have by some (the late Dr. Bentley) been supposed to be the origin of the word "caucus"—a corruption of "Cooke's House." But see Pickering's Vocabulary.

he requested his wife to embark for London, which she did, accompanied by her son, the late High Chancellor of England, (the present Lord Lindhurst,) who was then only three years old. Mr. Copley was soon distinguished in England, and was chosen a member of the Royal Academy. He now ventured upon historical painting, and succeeded most admirably. The death of Lord Chatham established his reputation, as among the first historical painters of the age. The next great picture was the sortie of Gibraltar: this was purchased of him, and placed in the council chamber of Guildhall. He still continued to take portraits of celebrated persons, and never dropped his pencil until his death, which happened in 1815. Almost every old family in Massachusetts, had one or more of his portraits, and if there are some equal to them at the present day, there are none superior. In coloring no one has yet in this country equalled him.

Tristram Dalton. In giving a brief sketch of the life of this distinguished gentleman, we may be allowed a single remark on the state of society in New-England fifty years since. The revolution has incalculably increased and diffused the happiness of the people, and perhaps the eminent men of other times appear more striking to us from the smallness of their number; but there were to be found before the revolution, in many parts of New-England, a degree of mental cultivation, a refinement and dignity of manners, and a liberal hospitality in the intercourse of society, which has not since, to say the least, been surpassed.

The town of Newburyport once furnished a remarkable illustration of the truth of this observation. Its population was small—actively engaged in commercial pursuits—under the direction of some of the most intelligent and distinguished merchants of New-England. Several of these gentlemen had been associated in early life at the University, and others were connected by nearer ties. Four members of one class, although not natives of the town, chose Newburyport as the place of their residence. One of them was a clergyman, lately deceased, most respected and beloved, who for many years found these friends of his youth amongst his most affectionate and valuable parishioners. The intercourse of society is always most pleasant and unrestrained in places which are small enough to permit each to be acquainted with all, whilst the same circumstance prevents the establishment of rival circles—and in no part of America, we believe, were its pleasures enjoyed more rationally, or a more frank and generous hospitality exhibited towards strangers, than in Newburyport.

The Honorable Tristram Dalton was born there, in the month of June, 1738. He was the only child of parents of the first respectability. In the year 1755, being then at the early age of seventeen, he received the degree of Bachelor of Arts at Harvard University. He was tall and finely formed, and added to his personal beauty the most graceful and polished manners. He was diligent, exemplary, and accomplished as a scholar. His class was a distinguished one. None is at present recollected of the same numbers, which has furnished an equal proportion of eminent men. Two of its illustrious members still live to enjoy the gratitude of their country. After leaving the University, Dalton pursued the study of the law at Salem, as an accomplishment, and not with a view to practice. He was happily exempted from the necessity of struggling in a profession, of which it has been well remarked, that the violence of the competition, the intellectual labor, and the unintellectual drudgery which it involves, render it the most difficult, and after the first glow of enthusiasm has gone by, the most repelling of human pursuits.

Having finished his course of reading in Salem, he married the eldest daughter of the Honorable Robert Hooper, of Marblehead, and entered into business with his father, then one of the most wealthy and respectable merchants of his native town. For many years he resided in Newburyport, actively engaged in commercial pursuits, and surrounded with every temporal blessing,—domestic happiness—public respect—and the various and exquisite enjoyments, which a taste for agriculture and letters with unlimited means of gratifying it, so richly affords. His piety

was ardent and sincere. From feeling and conviction, he believed in the gospel of our blessed Saviour. He read much, and devoted himself particularly to those studies which are connected with revelation, and the ancient history of the church. He preferred the Episcopalian mode of worship, at which he constantly attended, and contributed liberally towards maintaining it in Newburyport.

For several years he was called to fill some of the most dignified and responsible offices in the Commonwealth. He was a representative from his town—Speaker of the House of Representatives—a member of the Senate—and with the late Governor Strong, was chosen a senator of the United States, in the first Congress after the adoption of the Federal Constitution. When the term for which he was elected to the office of senator of the United States had expired, the proposed establishment of the federal city at Washington, presented an object of deceptive splendor, which seduced many to resort to it. The visions of power and glory, which seemed to accompany even the mention of its name, could not indeed have been realized without the "strong enchantment" which is said to have raised the walls of ancient cities in the desert. Dalton had formed an extensive acquaintance with the inhabitants of the south, and was induced by that circumstance, and the prospect of making advantageous speculations at Washington, to invest his fortune in property there, which ultimately occasioned to him great losses. He disposed of his estates, which were among the most beautiful and valuable in the county of Essex, for prices, which, even at the present reduced value of real estate, would be thought small, and removed with his family to Washington. The person with whom he was there associated in business deceived him, and the consequence was, a loss of nearly the whole of his property. For sixty years he had lived in a state of affluence, and the change would have crushed a spirit less equable than his, less enlightened by philosophy, or sustained by religion. "But he had learned in whatsoever state he was, therewith to be content," and he was fortunately in a part of the country, where wealth is not the "one and only thing needful." With manners so gentle and attractive as his, a mind so cultivated, integrity so spotless, he had the satisfaction of finding that no diminution of respect accompanied his loss of property; and the priest and the Levite, if they were not quite so obsequious as before, did not however in his case, as in most others of misfortune, pass by on the other side.

Dalton had lived in habits of intimacy and friendship with the four first presidents of the United States. Washington honored him with his confidence and regard, and with his illustrious class-mate, whose peculiar glory it is to have been second only to him, who was "FIRST *in the hearts of his countrymen*," the friendship which was formed in early life, was maintained to the last, unchanged and unimpaired. From a knowledge of his worth, and misfortunes, he was offered repeatedly by the national government a choice of respectable offices. In 1815, he was appointed surveyor of the ports of Boston and Charlestown, and he returned once more to New-England. But another generation had risen up. Of his contemporaries few remained. Some younger than himself had forgotten him, and some had injured, and could not therefore forgive him. He continued in the active discharge of the duties of this office, until 1817, when he closed in peace, a life of distinguished purity and usefulness.

AMASA DAVIS, an officer of the revolution, was born at Wadsworth, in Massachusetts, in the year 1744, and after a common school education entered his brother's counting room, who was several years his senior, and then a merchant in Boston. This brother, the honorable Caleb Davis, was for several years elected a Senator of the Commonwealth, and had previously been chosen Speaker of the House of Representatives. He had a high reputation in church and state—having been many years a deacon of Hollis-street Church, an office in that day more indicative of moral reputation than the highest political office one could hold. After spending a few years in the counting room of his brother Amasa Davis, close the life of a mariner as more

active and better suited to his enterprising spirit, and soon found himself a master of a vessel. He was in this employment when the revolutionary storm arose. While on shore he joined himself to a company formed of yonng patriots, and was active in disciplining of them for future service. When the British took entire possession of the town of Boston, he with others retired to the country, but was ready to join the army after the battle of Lexington. He became known to Washington, while the army was at Cambridge, and was made a commissary, and followed Washington when he left in the spring of 1776, the heights of Cambridge, for the state of New-York, and was with the American army at White Plains, and in that battle. In 1777, when Burgoyne surrendered, and his forces were marched to Cambridge, near Boston, Col. Davis was appointed the commissary general of that army, under the convention of Saratoga. This situation made him intimate with Burgoyne, Phillips, Reidesell, and the first men of that body, as well as many of the ladies who followed and shared the fortunes of the campaign; the Baroness of Reidesell,—Lady Harriet Ackland, Lady Balcarras, and many others: several of them shared the hospitalities of his table during the time that the army was confined to Cambridge. The British were satisfied with his official conduct, and expressed their thanks to him most fully, when they left the camp, as did the commander in chief on the part of the Americans. In this capacity, he had a fine opportunity to make a fortune; the officers were liberal, and the military chest abundant; but the country wanted the precious metals, and he gave up all he had accumulated in exchange for continental paper, all of which became a mockery and a nuisance. Thus were patriots rewarded. The course pursued was worse than any agrarian laws ever passed by Rome in her worst days. When the constitution of Massachusetts went into operation in 1780, Col. Davis was appointed by Governor Hancock, Quarter Master General of the Commonwealth, which office he held in every change of party, for forty-five years, with credit to himself and honor to his state. In 1786—7, he was with General Lincoln's army, in suppressing the insurrection of Daniel Shays, as it was called, merely because he was the leader of the disaffected, but who in fact, was but a secondary agent in the affair. This was a period of great gloom and distress. So much was the confidence of the people shaken in the government, that no wood-wharfinger would trust the faith of the legislature for a load of wood, and all that was burnt by them for that session was obtained on the credit of the Sergeant at Arms of that body. General Davis gave his own personal security for many of the articles necessary for his department for the campaign. Patriotic individuals came forth as the exigencies arose, and the Commonwealth was saved from a ruinous civil war. As the army approached, the insurgents fled, and but little blood was spilt. These difficulties had a good effect, the legislature found that there was a point beyond which human nature would not bear, and the disaffected were taught the strength of a government founded on the will of the people. Several of the insurgents were tried and convicted of treason, but no one was executed: those who understood the subject best, were the most strenuous advocates for the greatest clemency. It often happens that there is but a hair-line between a rebel or traitor and a patriot. Washington would have been executed as a rebel had he been taken in the first campaign of the revolutionary war. This the enemy avowed, and would without doubt have carried into effect, if they had been able to have taken him. In this campaign General Davis had two brothers who had served as officers of distinction in a great part of the revolutionary struggle. One of whom, Captain Robert Davis, received the highest encomiums of Washington, when the great commander visited Boston, in 1789, and was taken up, with his suit, upon Suffolk lines, by Davis' artillery.

General Davis was elected commander of the Ancient and Honorable Artillery Company, which has from the first settlement of the country, been the Pelopidean band of democratic worthies in every dark hour of that republic. These judges knew

that he was every inch a soldier, and in every principle a republican. During the war of 1812, although then advanced in years, he was prompt in the discharge of every duty, and proved that he had lost nothing of his youthful energy. The Governor confided much in his military experience, and he was a favorite of the whole body of the militia of the Commonwealth. The manners of General Davis were of the old school; bland, courteous and military. He was most scrupulously attentive to any rule of etiquette, and always rendered every attention to every soldier or citizen who came in his path of duty or observation. In every vicissitude of life—and he experienced many—he always acted with fortitude, and arose from depression of circumstances with the elasticity of a buoyant and powerful mind. He was not considered as merely a military man, for when the first expedition was fitted out in that quarter for the Pacific Ocean and North-West Coast—a land then only of rumor to the people of this country, he was offered the command of the enterprise, but the claims of a large family, although he was in prosperous circumstances, having recovered from the paper money shock, would not allow him to think of the voyage. When President Monroe visited Boston after his second election, General Davis was introduced to him on parade,—the President said to him, "I am happy, General, to take by the hand, the oldest officer in commission in the United States:"—"Sir," was the reply, "I am happy to see still at the head of my country, a soldier who drew his sword to achieve our independence. You know what it cost, and how to maintain it."

General Davis lived until the 30th of January, 1825, when he expired after a short illness. Few men were ever more faithful to their country, more true to their families and friends, and no one ever exercised a better judgment, or ever bore a loftier spirit in the discharge of the duties of life, than General Davis.

Joseph Dennie, one of the American literati—a native of Boston—was born August 10, 1768, and graduated in 1790. He acquired a high reputation as a belleslettres scholar while at Cambridge. He read law with Benjamin West, at Charleston, in the state of New-Hampshire, and on leaving the office of that distinguished advocate and statesman, opened one for himself at Walpole. Here he published a paper called the *Farmer's Museum*, which became one of the most popular periodicals in the country. He wrote essays that attracted the attention of all readers. They were plain and came to the understanding of every class of people, and at the same time had no small share of Addisonian elegance and taste in them. Here he met daily with a club of wits, who were too fascinating for Dennie's habits of industry and regularity. He was of a delicate and irritable temperament, and could not do without danger what many others did with impunity. Royal Tyler, a dramatist, a poet, a wit, a lawyer, and a judge, was one of the social circle. He was full of story and song; one of those of whom it has been said that the *Muses were fond to inspire, but sometimes blushed to avow.* There are others now living who made up the club—which could not have been inferior to that graced by Foot and Quin, in their best days of wit and whim.

Mr. Dennie commenced the Port Folio in 1800, having been a clerk in the State Department for two or three years before that time. This journal soon became the most popular in the United States. The writing in it was of the best taste, diversified and pleasing, and did much to put down the swelling and sesquipedalian style then so common among us. For six or seven years, and perhaps longer, he continued to write for his paper, with considerable assiduity, and after that period with genius and taste, but it was perceptible then, that evil hours at times came over him, and that he was not what he had been. It was while he was conducting this paper that the syren of song Thomas Moore, visited this country, and became familiarly acquainted with Dennie, at Philadelphia. In a chosen circle, those scholars, poets, wits, and satirists enjoyed the Attic nights, to the farther injury of poor Dennie's health. Moore was young, and could bear the deprivation of sleep, and the indulgences of the

table, and it must be confessed he always seemed to enjoy to-day, as a mere preparation for the morrow. While he seized the present hour, and left the next to chance: with Dennie it was not so: Moore was disgusted with the manners and habits he found at the city of Washington at that time, and expressed his sentiments with great freedom. Dennie should not have seen Moore, for he poisoned his mind against American society. After their acquaintance, Dennie began to complain more frequently of the neglect of genius, and of the avarice and tastelessness of his countrymen, and murmuring, called this country "the land where fancy sickens, and where genius dies."

Dennie expired on the 7th of January, 1812, a victim of sensibility;—but his constitution was half in fault for his errors, and when the hard featured moralist condemns the man for not doing better for himself, he should remember that all the productions of his gifted mind assisted in purifying the morals as well as refining the taste, and arousing the genius and mending the hearts of his countrymen.

"The evils men do live after them,
The good is often interred with their bones."

Samuel Dexter, a distinguished lawyer and orator, was the son of a merchant of the same name; was born in Boston, 1761, and died at Athens in May, 1816, aged fifty-five. The family descended from the Huguenots, who fled to this country from France, at the revocation of the edict of Nantz. It is not a little remarkable that some of the men of the finest talents and of the highest virtues that have flourished in the United States, were descended from that stock.

He graduated at Harvard college in 1780. He was considered a young man of genius, and a poem of his on the "Progress of Science," delivered in College-hall, was thought to bear marks of a powerful mind; but poetry was not much cultivated nor applauded at that time. He commenced the study of the law on leaving college, and pursued it upon the great principle of general reasoning; and followed it through English history, to our possession of the common law, as that, with a few modifications, was the law of the land. He despised all little tricks in practice, and often declared that he never pleaded an abatement for a trifling mistake, when the action was well founded. He commenced practice in the county of Middlesex, and soon rose to distinction at that bar, and extended his business to Suffolk and the adjoining counties. He was in congress soon after the adoption of the constitution of the United States, and became one of the best orators in that body. He then acted with the federal party, and was a leader among them; and he had an opportunity of showing his eloquence in both branches of congress, for he was for some time a senator from Massachusetts. Mr. Adams made him secretary of war in 1800, and the next year secretary of the treasury. He discovered his usual ability in those offices. When Mr. Jefferson came into power he retired from office, and never entered public life again, though requested by Mr. Madison to do so, during the last war. From the time he left Washington, in 1801, he was engaged in all the important cases at the bar, not only in his native state, but before the Supreme Court of the United States at Washington; and for fifteen years could hardly be said to have had a rival. One of the finest displays of his eloquence was in the trial of Selfridge for shooting Austin. The writer can never forget its overpowering effects. Mr. Dexter was associated with Mr. Gore, a man of great argumentative powers. Gore confined his reasonings to the law strictly; Dexter soared beyond it all, and reasoned upon that code of honor which God had written upon the heart of man—from which springs self-protection, and all that gives dignity to his nature. Selfridge was acquitted, as he should have been, both in law and honor. The speeches as they were printed seem unlike the spoken ones, particularly that of Mr. Dexter's. It is not so powerful as it then seemed; perhaps the stenographer did not do him justice. In the same year the writer reported a speech of Mr. Dexter's in a divorce case in high life, in which he was opposed by Otis and Prescott, lawyers of much standing. This was thought to be a greater argument than he had ever made before. It was indeed a most masterly one.

A sketch was kept by the writer of this article for several years, but was lost in the great fire which happened in Newburyport, the last day of May, 1811, with some other valuable notes made on the events and principal characters of those times. For some years before the last war he had become somewhat estranged from many of his old friends, and was rather reserved when attending courts. From the few words he dropped now and then, it was apparent that the ties that once bound him to his political friends, were soon to be loosened. This opportunity was offered him at the declaration of war. He then contended, both in private and in public, that the war having been constitutionally declared, it was the bounden duty of every good citizen to aid the government, heart and hand, in bringing it to an honorable close. To this effect he offered some resolutions in a Boston town-meeting, at Fanueil-hall. These resolutions were opposed by most of the great men of that city. The assembly voted them down by a large majority. In this gigantic labor he became irritated and chafed, thinking that he was used rather uncourteously; and from that day he separated himself altogether from the federal party. In 1815, he was the candidate of the friends of the war for Governor of the state, but was not successful. In 1816 he was put again in nomination, and lost his election only by the popularity of General Brooks, who had such a hold on the mass of the people for his revolutionary services, that all parties united in thinking highly of him. This year Mr. D. died before the votes were declared.

When the political excitement had passed away, all were ready to do justice to the truly great man. They remembered his arguments and his eloquence, and forgot that he had differed from his friends; or, perhaps, began to think that his views on great national subjects might be quite as sound as their own. Mr. Dexter was not only a powerful but a singular orator. He resembled no one on the stage at his time. He fought all his battles by main strength. Like Roderick Dhu, he was a match for any one who dared close with him, but at times he found those, who, wanting his bone and muscle, had more skill. His sentences were constructed for the greatest effect in speaking, and were not found to be very harmonious on paper. He was often pathetic in debate, when warmed by his subject or roused by opposition; but he was not, to use Cotton Mather's quaint expression, speaking of a fine eulogist, "great with a hearse;" for he was not at home in folding the drapery, in throwing the plumes, or spreading the pall. His oration on Ames is as cold as that of Pericles upon the thousands who had fallen in the wars his ambition had caused.

His person was of a commanding appearance, tall, stout, of herculean symmetry; his features were large, and strongly marked; his complexion dark, and his hair became gray early in life. He was slow in his movements, and rather inclined to taciturnity; but when his words began to flow, he was the centre of the circle, the object of attention, for he was as eloquent in conversation as in debate. There was no room so large that he could not fill. Every word that he uttered in Fanueil-hall was so distinct that it reached the ear of the most inattentive. His accentuation was precise, and his manner was nearly the same at all times. He had no under tones of delicacy or sweetness. He could not "*roar you like the sucking dove*," but it must be like the very lion; and like the monarch of the forest, the sound of his voice seemed to silence all others. The people of his native state must always have some idol, and sometimes they change him as often as the Athenians did theirs; but for many years of Dexter's life, he was not the real idol of their fancy, but of their judgment; one whom they were bound, in some degree, to esteem, because they knew his power. He seldom felt the dread of an opponent, or suffered from the weakness of modesty; he knew his strength, and marched onward to his work.

After he left Washington, in the five years that ensued before Parsons went on the bench, they often met in opposition. He had been considered "the giant" of the law for thirty years by the bench and bar of Massachusetts. One instance of their meeting is particularly remembered. George Crowninshield and others were indicted for a riot; the provoca-

tion had a leaven of politics in it, and it was difficult to find a jury that were unbiassed; in fact, no such one was ever found. After three attempts at a trial, a *nolle prosequi* was entered. On the second attempt of the attorney general, Sullivan was absent from ill health, and Parsons was appointed by the court to support the prosecution. Dexter was the counsel for the defendants. It was a trial of strength, and many old lawyers thought it the greatest exhibition of forensic powers that was ever exhibited in that state. The eyes of the community were upon them, and they knew and felt it. Parsons was familiar with every principle, and with every precedent that had a bearing on the cause, and fairly made out a legal case of riot; but Dexter denied the law he produced as applicable to the present times, and contended that the progress of common sense had come in to relieve the common law of many of its absurdities; for instance, the statutes against witchcraft in England were not repealed; but who would be so absurd as to condemn any one for witchcraft at the present day? and insisted that there must have been some wrong intended, or which might be reasonably expected to flow from the act to be done, to make a riot. There was, as has been intimated, no verdict; but the people were gratified with these great mental gladiators, for the space of two days together. Parsons went on the bench in 1806, and Dexter was almost constantly in his court. These great lawyers always treated each other with profound respect, that which arises from a high consideration of each other's intellect. They were both excellent biblical scholars, and their example made the study of the scriptures fashionable among lawyers.

Mr. Dexter was a reformer—we mean to use the term in a good sense. When he came to the bar there were in Massachusetts proper, and in Maine, which was attached to it, more than a hundred judges of the court of common pleas. Three, four, or five to each county. These men, generally speaking, were men of some influence in society, but there were few lawyers among them. They assumed all the dignity of the bench, and went on with the trials with all the consequence of the ermine and the scarlet. Dexter, at once, turned upon this mock dignity with sovereign contempt, and treated the inferior judges as inferior men; unless, as it sometimes happened, there were exceptions to the general rule, and then according to the character of the person. The supreme court had thought that wisdom consisted in distance and aristocratical airs; he took his course with them, giving them all proper respect, and yielding no single right of an advocate. This reform had been attempted before, but had never succeeded. Dexter was in bad odor with the court for a long time, and severe observations passed between them, until Sedgwick was put upon the bench in 1802. He proceeded in new style with the bar, calling the members brothers, and treating them as such. When Parsons came on the bench, and with him Parker, the manners of the bench to the bar were altogether changed, and the intercourse between them has since been most bland and courteous. The bar of his state should put upon the monument of Dexter, "Here rests a great lawyer, who, feeling his intellectual superiority and professional integrity, treated courts with respect, and exacted a courteous demeanor from them; knowing his rights as an advocate, he never courted the bench by flattery, nor browbeat witnesses to gain a cause. To such a man every young lawyer owes a debt of gratitude that can never be repaid but by making a solemn determination that when he has power and influence, he will imitate his example."

Joseph Dombey, a French botanist and traveller of much celebrity, was born at Macon, February 22d, 1742. He was brought up to the study of medicine, and took the degree of M. D. at the university of Montpelier. He there imbibed, under the celebrated professor Gouan, a taste for natural history, more especially for botany. To this taste he sacrificed his profession, and all prospect of emolument from that source. Content with a small patrimony, he resigned himself to the charms of nature in the fine country where he was stationed. The south of France, with its varied and extensive coasts, its fertile plains, and its wild and lofty mountains, was his

first theatre of observation. When the season of the year obliged him to retire to his college, he returned to no studies but such as favored and improved his darling propensity. Whatever time was not devoted to that, was given to the pleasures of dissipation incident to his time of life, his gay and agreeable character, and the society with which he was surrounded. To this dissipation he, perhaps sacrificed more than prudence could justify, and it was fortunate for his moral character and worldly interest, probably also for his scientific success, that he removed to Paris in 1772, to improve his botanical knowledge, under the tuition of the celebrated Bernard de Jussieu and Le Monnier, and to cultivate the friendship of such men as Thouin and Rousseau. In 1775, he travelled to Berne to visit Haller, whose busy and important life was drawing towards a close. While rambling over the Alps in his return, he received a letter from his friend, Thouin. in August, 1775, informing him that M. Turgot had, on the recommendation of Jussieu, chosen him to go to Peru, in search of plants that might, with advantage, be naturalized in Europe. He returned instantly to Paris; was presented to the minister, and received his appointment, with a salary of 3,000 livres. Part of this was obliged to be mortgaged to pay debts incurred by his youthful prodigality, and he was detained till the Spanish court had given its consent to the undertaking, which could not be procured till the close of the following year, 1776. To the honor of Dombey it must not be forgotten, that he devoted the intermediate period to the most steady application, in order to qualify himself for his great and delightful undertaking. Indeed, if pleasure, or dissipation, could have drawn him aside from such views, he would little have deserved his appointment, or his subsequent fame. On arriving at Madrid in November, 1776, his ardor met with several ungrateful checks in the solemn gravity and misplaced jealousy of the Spanish court, who encumbered him with futile instructions, and with four companions, each of whom had a salary of 10,000 livres. Those companions proved, in the first instance, of little use, for though two of them were botanical draughtsmen, and professedly destined to his service, Dombey was never allowed even a copy of the drawings they made under his directions. On the other hand, he was obliged to expend his own salary in buying paper and instruments requisite for his undertaking. That salary had indeed been doubled, but it was still, even with the economy he now practised, inadequate. His courage, however, failed him not. A new world was before him, and nothing chagrined him except what delayed his voyage. That voyage was happily accomplished in six months, and he arrived at Lima, April 8, 1778, where he obtained a favorable reception from the Viceroy of Peru, Don Emanuel de Guirrior, and from M. de Bordenave, one of the canons of Lima, an old acquaintance of his friend Jussieu. His first botanical expedition towards Quito, was not without danger, from hordes of runaway negroes, but it afforded him an abundant harvest of specimens of plants, as well as of antiquities, from the sepulchres of the ancient Peruvians. These, with thirty-eight pounds of platina, and a collection of seeds, he sent immediately to Europe. He accompanied his collections with two manuscript treatises of his own, one on a disease, which he attributed to the immediate use in that country of the fruits of *capsicum annuum*, *Physalis pubescens*, and *solanum lycoperricum*; and the other on a new but useless species of *Laurus*. which ignorant observers had reported to the Spanish Government as being the true cinnamon; a mistake which Dombey found himself obliged to rectify. He was employed by the Viceroy to analyze some mineral waters in that neighborhood. He afterwards settled for a time in the mountainous province of Tarma, beyond the Cordilleras, and in May, 1780, visited Huanuco, the extremity of the Spanish settlements in that direction. In the vast and almost impervious forests beyond, he ascertained the fact which had been reported of the *Cinchona*, or Peruvian bark, being abundant there, though previously supposed to grow at Loxa only. He determined also that there were several species of this valuable drug, all more or less useful in medicine. To

investigate the botanical riches of these forests, swarming with insects, and filled with stagnant pestiferous vapors, proved a labor of no less danger than difficulty. As the trees there are most decacious, it was found necessary to fell two of them, in order to obtain perfect specimens of each single species. Nor are the lofty climbers, which bind these ancient woods into one entangled mass, an inconsiderable impediment to the progress of the botanical traveller, their flowers being no less inaccessible than those of the trees which support them. But these savage regions soon became more formidable to our travellers, in consequence of their more savage inhabitants, 200 of whom were advancing by night to plunder them, had they not escaped by a precipitate and perilous retreat to Huanuco. From thence Dombey returned to Lima, where various difficulties, attended by various resources, awaited him. The celebrated Necker, then in power, had increased his pecuniary income, but it was still not adequate to his wants. He had, moreover, to encounter the scorn of the rich and ignorant who despised his knowledge, and the persecution of the bigotted priesthood, who by a natural instinct dreaded it. Though correct and wary in his moral and religious deportment, his being a Frenchman was enough to excite their suspicions, and nothing but the public protection of his king secured him from the fangs of the inquisitors. Here, however, his medical knowledge proved of the greatest use. It augmented his income, and gained the respect and favor of all ranks, for even monks themselves did not disdain to be cured of their diseases by a French philosopher, who was found more skilful than their more orthodox countrymen. Thus, self-interest secured what sense and justice could not obtain; and the situation of our adventurer was still farther improved by the favor which his agreeable person and manners found with the fair sex, to whose assemblies the young and lively Frenchman was no unwelcome guest. Even in the society of Lima, Dombey met with some enlightened and disinterested characters, who could appreciate his merit, and who rendered him, from time to time, the most essential services.

Having sent off his second collection to Europe, Dombey returned to Huanuco in the end of December, 1780, though to the other difficulties of his situation, the desolating plague of a civil war was then superadded. But this apparent misfortune turned out to his advantage. He roused the latent patriotism of the Spaniards by offers, not only of money, but even of personal services, to repel the insurgents. Though as pecuniary assistance was very properly declined, his zeal was publicly applauded by all orders of people, and accompanied by authentic documents of their gratitude. When the insurrection was quelled, Dombey presented to the public hospital the sum he had offered towards the defence of the state. He had, shortly after, the mortification of hearing that his first collection had been taken by the English, and redeemed at Lisbon by the Spanish Government. Consequently, that a very valuable part of it, the ancient Peruvian vases, and a complete dress of one of the Incas, which he had destined for his own sovereign, had been presented to the Spanish monarch by Professor Ortega, duplicates of the dried plants and seeds only having been forwarded to Paris. To this, as legally just he could not but submit; but when complaints were transmitted to him, "that the herbarium which he had made for the French King was superior to that destined for the King of Spain," he ventured to represent in his turn the injustice of not sending to France at least the duplicates of his drawings.

Dombey in the meanwhile, leaving his more recent acquisitions in safety at Lima, undertook a journey to Chili. This had always been a principal object of his mission, on account of the nearer resemblance of its climate to that of France, which rendered its vegetable productions more likely to be useful there. His journey was necessarily attended with vast expense, but his character was now so well known that he readily met with assistance. He arrived at La Conception in the beginning of 1782, where his adventurous destiny had prepared for him far other cares and pursuits than those of botany. The town was afflicted with a pestilential fever, and he was cautioned

to avoid certain infected houses where it raged. Instead of following this advice, he devoted himself to the exercise of his medical skill, assisting the poor with the most valuable charity of his advice as well as with food and with medicine, and avoiding such houses only as were not infected. His example restored the public courage, and the grateful people wished to retain him, with a handsome stipend, as their physician. Nor were even more tempting attractions wanted to fix him here for life. He was no longer pointed at as an heretical scarecrow, for even the bishop of La Conception endeavored to promote his union with a young lady of great beauty and riches, on whom his merit had made impressions as honorable to herself as to him. From motives of misplaced patriotism he tore himself away, to pursue the primary object of his life, an object which would have been best fulfilled by his permanent residence in Chili, from whence he might at leisure have communicated the subsequent fruits of his enquiries. But the lot of Dombey was cast in labor and sorrow, and his greatest mortifications were yet to come. Having added greatly to his collection of drawings, shells and minerals, as well as of plants, while in Chili, and having discovered a new and most valuable mine of quicksilver, and another of gold, for the worthless and ungrateful government, whose foolish jealousies rendered almost all his own acquisitions finally abortive; he revisited Lima to take his passage for Europe. A journey of 100 leagues among the Cordilleras, made at his own expense, had much impaired his finances and his health, but he refused the repayment which the country, in this instance not unjust, offered him, saying that "though he was devoted to the service of Spain, it was for his own sovereign, who had sent him to pay his expenses." While he still remained at Lima, the labors of arranging and packing his collection of natural history, added to the fatigues he had already undergone, and the petty jealousies and contrarieties he experienced from some of the Spaniards in power, preyed upon his health and spirits; and under the idea that he might possibly never reach Europe, he wrote to his friend Thouin, to take the necessary precautions for the safety of his treasures on their arrival in a Spanish port. He survived, however, to undergo far greater distresses than he had yet known. After narrowly escaping shipwreck at Cape Horn, and being obliged to wait at the Brazils till his ship could be refitted, which last circumstance indeed was favorable to his scientific pursuits and acquisitions, he reached Cadiz on the 22d February, 1785, with all the feelings of transport which an approach to his native country, a generous ardor to communicate his knowledge and to relate his adventures, and a desire to revisit the friends of his earlier years, could excite in a mind like his. But instead of the reception he expected and deserved from the nation he had chiefly benefited, every Spaniard from the subaltern of the custom-house, to the ministers of state, seemed leagued to mortify him, and to render his labor, even for their own service, of no effect. He was not only tormented with the most pettifogging and dishonest behaviour concerning the property of his collections, but those collections were exposed, without discrimination or precaution, to the rude and useless scrutiny of the barbarians at the custom-house, so as to be rendered useless in a great measure, even to those who meant to plunder them. The whole were thrown afterwards into damp warehouses, where their true owner was forbidden to enter. Here they lay for the plants to rot, and the inestimable collections of seeds to lose their powers of vegetation, till certain forms of the grave and sapient most catholic court were gone through, which forms, as it afterwards appeared, tended chiefly to the rendering their plunder useless to others, rather than valuable to their own nation. In the first place, as much of these treasures had suffered by this ill treatment, Dombey was required to repair the injury from his own allotment, or from that of his master, the King of France. With this he could not of himself comply; but an order was, for some political reason, procured from the French court, and he was obliged to submit. He could never, however, obtain that the seeds should be committed to the earth so as to be of use, and hence the gardens of Europe have been

enriched with scarcely half a score of his botanical discoveries. What had been given him for his own use by the Viceroy of the Brazils, underwent the same treatment as the rest. Finally he was required to fix a price upon the sad remains of his collections, which, as a great part was French national property, it was obvious he could not do. He remained at Cadiz without money and without friends. His only hope was that he might hereafter publish his discoveries, so as to secure some benefit to the world, and some honor to himself. But this last consolation was denied him. Anxious to revisit his native land, he would have compounded for his liberty with the loss of all but his manuscripts; but the tyrants, in whose hands he lay, would not let him depart till they had copied all those manuscripts, and bound him by a written promise never to publish any thing till the return of his travelling companions. In the meanwhile those very companions were detained by authority in Peru; and in after times the original botanical descriptions of Dombey have, many of them, appeared verbatim, without acknowledgment, in the pompous *Flora* of Peru and Chili, which thence derives a great part of its value. Thus chagrined and oppressed, the unhappy Dombey sunk into despair, till, no longer useful or formidable to his oppressors, he was allowed to return, with such parts of his collections as they condescended to leave him, to Paris.

There the writer of the present article knew him in 1786. He was no longer the handsome lively votary of pleasure, nor even the ardent enthusiastic cultivator of science. The leaden hand of tyranny had impressed its own stamp on his countenance, and he had the sallow, silent, melancholy aspect of a depressed and disappointed Spaniard. He chiefly associated with his faithful friends, Le Monnair and Thouin, and in their society, botanical converse still retained its charms. To the contents of his own collection, which however injured and diminished, was still a very interesting one, he paid little attention. Bound by his promise, his high sense of honor would not let him make the proper use of it, but at length he was induced to part with it to M. de Buffon, who nobly exerted himself so as to procure from government a pension of 6,000 livres for Dombey, and 60,000 livres to pay his debts. The herbarium was confided to M. L'Heritier, with orders to publish its contents. This was no sooner known at Madrid, than interest was made by that court to defeat the measure, and the court of Versailles was not in a condition to dispute, even so unjust, and politically unimportant a requisition, from that quarter. Buffon had orders to withdraw the herbarium, but L'Heritier on the first alarm had taken it over to London, and the writer of this narrative, with his lamented friend, Broussonet, and his draughtsman Redoute, were alone entrusted with the secret. Happy and safe in a land of liberty and science, L'Heritier remained about fifteen months devoted to the prosecution of his object, chiefly under the hospitable roof of his friend, Sir Joseph Banks. But the distressed state of his country obliged him to return, and his own dreadful and mysterious murder closed the scene.

The unfortunate Dombey had long been at rest, but not without fresh previous toils, and aggravated sufferings. He had determined to retire to a peaceful retreat at the foot of Mount Jura, where he had a friend devoted to the love and cultivation of plants. His pecuniary circumstances were now easy, and he resigned his fatal celebrity without regret. He broke off all scientific communications, except with M. Pavor, one of his fellow-laborers in Peru, and who had all along been innocent of the execrable machinations against his honor and his peace. He refused a place in the French Academie des Sciences, as well as a large pecuniary offer from the Empress of Russia for the duplicates of his collection, saying, "he was not in want of money, and he had most pleasure in distributing his specimens amongst his friends." Even one of the Spanish ministry, relenting when too late, offered him a large sum of money by way of indemnification, which Dombey with due spirit absolutely refused. Residing at Lyons for some time in his way towards Switzerland, he had the misfortune to be present during the seige of that town. That

energy of mind which neither vanity nor riches could call into action, revived at the sight of distress and danger, and those who were ready to perish found the wonted assistance of Dombey, who supplied their necessities, and healed their diseases. But he sickened at the sight of public miseries on every side, which he could not alleviate, and he procured a commission to visit North America, in order to purchase corn from the United States, and to fulfil some other objects of public importance, especially relating to science and commerce. A tempest obliged him to take shelter at Guadaloupe, and that ill-fated island was then in as distracted a state as the mother country. Having been sent out by the French republic, he was consequently odious to the royalist governor, and on being summoned into his presence, he rather preferred making his escape on board a vessel freighted by some republican deputies for Philadelphia. But before he could embark he was seized and thrown into prison. This violence excited a public commotion in his favor, and the governor thought proper to release him. In laboring to appease the tumultuous mob, which threatened vengeance on his enemies, he was thrown accidentally into the river, and the consequences were nearly fatal to his life. When recovered he waited on the governor, and though found innocent, was ordered to quit the colony in the American vessel in which he came. That vessel was no sooner out of the harbor, than it was attacked by two privateers, and taken. Dombey, disguised as a Spanish sailor, was thrown into a prison in the island of Montserrat, where ill treatment, mortification, and disease, put a period to his life on the 19th February, 1796.—*From Trevett's Manuscripts.*

William Eaton. Every country has its own chivalrous characters, and our own, young as it is, abounds in them. A volume would not contain the names of those who have passed the ordinary bounds of duty, in the high callings of patriotic display. From John Smith and Miles Standish, down to Wadsworth and his gallant friends, who made themselves a sacrifice on the altar of their country's glory, there have not been wanting men who emulated the heroes of antiquity: Among these may be ranked William Eaton, who was born at Woodstock, in Connecticut, on the 20th of February, 1764. His father was a small farmer, and William was one of thirteen children. He was considered a bright boy, and distinguished himself in the common school in his native town, the good people of which thought him destined to make a superior man, but nothing offering to suit him in the way of traffic, or as a profession, he, at sixteen years of age, enlisted as a common soldier. In this situation he remained until 1783, when he was discharged with the rank of corporal. He was now determined on the study of the languages, and by dint of application, yet with very little assistance, he prepared himself to enter Dartmouth college. On leaving college, in order to earn a subsistence, he commenced a school which he continued for three years; but he was not satisfied with his employment, and panted for something of a more active nature. The House of Representatives in the state of Vermont, made him, for a time, their clerk, after which, by the recommendations of individuals of that state, he obtained a captain's commission in the army of the United States. He proceeded to the frontiers with his company where he served under General Wayne, and gained the reputation of a gallant officer. In 1797, he was appointed consul at Tunis. In the discharge of his duties in this office, he was frequently embroiled with the Bey, and his life endangered by the daring and independent course he pursued. He may be said to have bearded the barbarian in his castle. The course of his conduct in this situation was such as no representative of any Christian power had ever set an example, and he escaped death by a miracle. About this time, the Bashaw of Tripoli declared war against the United States. The reigning Bashaw was a usurp r, and the lawful one, his brother, was at Tunis in exile. Eaton concerte l a plan with the exile to attack Tripoli by land, while our squadron should co-operate with them, on the sea shore. Eaton returned to the United States, and laid his plan before our government; but they, thinking the

scheme altogether too romantic, yet not wishing wholly to discourage it, made him agent for the government; and he sailed with the fleet for the Mediterranean. He proceeded to Alexandria, and by address and management, prevailed on the Viceroy of Egypt, to suffer him to have an interview with the exiled Bey, who was now among the Mamalukes, in a most distressed situation. They met near Grand Cairo, and entered into a convention, for the purpose of attacking Tripoli. Eaton was to be commander-in-chief of the land forces. Their army consisted of a few American sailors, a small company of artillery, a few straggling Greeks, the servants of Hamet Bashaw, and some camel drivers. With this motley band, he dashed across the desert, in the most noble style, fearless of all difficulties. They were joined by a few Arabian cavalry, and after suffering every hardship, arising from hunger, thirst, and a scorching sun, they reached Bomba, where they found the Argus and Hornet, under the command of Captain Hull, who supplied him and his men with provisions. The army of near four hundred, continued their march to Derne. On the 25th of April, 1804, they encamped near the city, on an eminence which commanded the place, and forthwith sent in a flag to demand a surrender. The inhabitants of Derne thought the exiled Bey was demented and treated the summons with contempt. A furious assault was made by this strange army, and the place was carried after a short, but desperate action. Sixteen days afterwards, several thousand troops of the Bashaw's army attacked the victors, but were repulsed with great loss. Shortly after this another attack was made upon Eaton's forces, and again the Tripolitans were defeated. Eight days after this engagement, another battle was fought, in which Eaton contended with ten times his force. In this he would have been successful, but at the precise moment when victory was about to perch on his adventurous standard, he received the appalling intelligence, that the American Commissioners in the fleet, had made a peace with the Bashaw then in power. It was stipulated, that Eaton should evacuate Derne, and repair to the fleet. This was a death-blow to his hopes. He felt himself insulted and disgraced, to be obliged, after all his exertions and sacrifices, to leave his friends like a recreant or a coward; but there was no other course for him to pursue. Hamet Bashaw came to the United States with a few of his followers, and the remainder of the army fled to the mountains. The Commissioners acknowleged that his success paved the way to the treaty of peace. The President of the United States, in a message to Congress, spoke highly of General Eaton's services; and the citizens every where hailed him as worthy of a place in the lists of chivalry.

Something more substantial than praise was awarded him by the state of Massachusetts, the legislature of which granted him 10,000 acres of land, as a reward for his heroism and services. Yet, notwithstanding all the honors bestowed on him, his feelings were wounded beyond a cure. He could not forget that the laurel was within his grasp, and that it had been snatched from him, as he thought by envious feelings at his prospect of brilliant success. The people of the town in which he resided, elected him as their representative to the legislature of Massachusetts, and he was received in Boston with every mark of attention. There he entered deeply into public business, and seemed anxious to become an orator. He had a good voice, a fine command of expressive language, and at first made a strong impression upon the public; but he talked when he had not examined the subject, and often involved himself in blunders, from which he had no art to get free; and at length lost his influence in debate. He was chafed by the slightest opposition, and such irritability will never do for one who enters upon the arena of debate. He became irregular in his habits and sought to drown his sorrows in the wine cup; but he forgot that miseries are sadly multiplied by drink, as images are in the vision of the inebriated. He died in 1811. In some of his compositions, there is a depth and force that is impressive. His mind was of an epic cast, and had he lived in the days of the crusades, his name would have been numbered with the Dunois' of song. J.

William Ellery, one of the signers of the Declaration of Independence, was born at Newport, on the 22d of December, 1727. He was educated at Cambridge College, and was graduated with the class of 1747. He then commenced the study of law, and practised in his native town with success. The respectability of his family, added to his own talent and acquirements, soon gave him a fair share of business. Mr. Ellery was a good classical scholar, and retained his knowledge of Latin and Greek, which most business men soon forget. He was early distinguished as a son of liberty, and took an active part in all those great preliminary acts, which led to the revolution. He was sent to the continental congress in 1775, in which body he held a conspicuous place particularly in its maratime and commercial concerns. He represented a commercial community, and was not unmindful of their rights or their interests. The members of congress soon saw his characteristic bent, and put him on all commercial committees. He shared largely in the distresses, as well as in the glory of the revolutionary conflict, for his property was plundered, and his house consumed by the torch of the invader of his native town. All this he bore with fortitude and patriotic magnanimity. During this period, he was also a judge of the supreme court of the state of Rhode-Island. He continued a member of congress until 1785.—When the Federal constitution was adopted, he was appointed by General Washington collector of the port of Newport, which office he held until his death. The malignity of party spirit did not reach him, for he was above it. He died in office at a more advanced age than any other man, who ever held a public trust in this country. On the 15th of February 1820, in the ninety-second year of his age, this venerable patriot expired. He retained his partiality for the classics to the last. It is said he died with Cicero in his hand. Well might the mighty orator say, that letters amongst other things, are the charm of old age.

William Emerson, a clergyman of Boston, was the son of the Rev. William Emerson, of Concord. Massachusetts, who was so zealous a patriot that when the troubles arose between this country and England, he left an affectionate family and a good parish to follow the American army as a chaplain, to strengthen their hands in the cause. But it was his fate to fall a victim to disease in the northern campaign of 1776. The father of the chaplain was a minister at Malden in the same commonwealth. A greater number of the name is to be found on the catalogue of Harvard University than of any other; the first Emerson was a classmate with Increase Mather in 1656. The subject of this sketch was born in 1769, and graduated in 1789. After the usual course of studies in theology he was settled at Harvard, 1792—a country town in his native state. Here he was so attentive to his studies and his parochial duties, that his fame was soon spread through all the churches. He wrote his sermons with great care and taste, which was not then common among clergymen, who as a body were negligent of style, and elegance of composition. In 1799, Mr. Emerson was installed pastor of the first church in Boston. He was in this new situation, highly esteemed for the amenity of his manners; the extent of his classical and theological attainments, and for the apostolical purity of his life. In 1804, anxious to see the literature of our country advancing to respectability and desirous that in letters and science we should begin to think for ourselves, he took upon himself the editorship of the Anthology, a periodical printed in Boston, out of which has grown the North American Review, a leading journal in this country.

The constitution of Mr. Emerson was never robust, and he did not think of the necessity of exercise and relaxation, early enough in life to counteract the effects of sedentary habits and he fell a victim to consumption in the 42d year of his age, dying on the 11th May, 1811.

At his funeral a sermon was preached by that eloquent and interesting divine, Joseph Stevens Buckminster, then a clergyman of Boston, who the next year followed his friend Emerson to the grave. In this sermon Buckminster made the following remarks.

"In looking over the list of our predecessors, I find the names of COLMAN, FOXCRAFT, COOPER, CHAUNCY, CLARKE, THATCHER, and now alas, EMERSON, who have successively been called to perform this last service before they were themselves brought into the house of God, no longer the living speakers, but the lifeless subjects of discourse. Such has been the order of their removal from office; such the order in which the survivor has stood over the remains of his brother; thus have they followed in alternate regularity to the place appointed for all living."

Probably these remarks arose from a presentiment that he should be called next. The disease to which he was a victim was then preying on the eulogist, and he was gathering his robes about him to die.

The publications of Mr. Emerson were, sermons at the Artillery election, Boston, 1799—before the Roxbury Charitable Society, Sept. 1800—at the ordination of the Rev. Robert Smiley, Sept. 1801. Boston Oration, 4th of July, 1802. Sermon on the death of the Rev. Dr. Thatcher, 1802—on the ordination of the Rev. Thomas Beede, 1803—on the death of Charles Austen, 1806—Discourse before the Humane Society, 1807—at the ordination of the Rev. Mr. Clarke, Burlington, 1810. Also, four discourses in the Christian Monitor, numbered 1, 2, 3, 7. He made a collection of Psalms and Hymns for the use of churches. Some sketches of the annals of the first church in Boston, from his pen, were published after his death.

The life of Mr. Emerson was one of study, and of the faithful performance of every duty as a son, husband, pastor, citizen, and father;—but his chief distinction from a great many good men, was his exertions in the cause of literature. He, with several others in Boston and vicinity, early entered into literary associations, whose influences were diffused through the country. They attempted to bring into discredit that bad taste then so prevalent among writers, and particularly among clergymen. Sermons were then too often disgraced by conceits, and overloaded with affectations; quaint phrases and new-coined adjectives were considered marks of genius; and to use the words of a critic of that day—they thought "a sermon was good for nothing that has no snags to tear the sinner's heart" forgetting that the razor whet in oil cuts the deepest. Mr. Emerson lived to see the dawning of a better taste, and his own example followed.

THOMAS ADDIS EMMET was born in Cork, in the kingdom of Ireland, in 1764. He was educated at Trinity College, Dublin, but went to Edinburgh, to study medicine, where he took the degree of M. D. in 1784. He was at this time distinguished for his genius and acquirements. From Edinburgh he made the tour of the continent, and visited the most celebrated schools in Italy and Germany, and was received as one of distinction among them. He had a brother, an eminent lawyer at the Irish bar, whose death made Thomas Addis' father anxious to have him study the law.

In obedience to his father's wishes he entered the temple in London, and after two years was admitted to the Irish bar, at Dublin, in 1791. Here he soon rose to distinction—but he was not destined to pursue his professional course in that country: for at this time the doctrines of the French revolution had spread over Ireland, and had awakened every one to a paroxysm of patriotism. His temperament was such that he could not be inactive, and he was charged with having been in correspondence with the emissaries of France, and one of the principal men in organizing the united Irishmen. Mr. Emmet was for a long time in prison, but after the treaty of Amiens, he was sent to Fort George, in Scotland. He had offended sufficiently to have been made a victim, but his popularity was such that it would have been dangerous to have destroyed him. France did not act in good faith towards Ireland; Bonaparte was more intent in conquering states than in freeing them. Mr. Emmet considered Napoleon the greatest enemy that Ireland ever had. The conqueror of nations was more devoted to his own glory than to the liberties of mankind. Mr. Emmet suffered from a long confinement, cheered only by the company of his wife, who voluntarily shared his confinement. Mr. Emmet was declared a state prisoner,

with a few others, for several years. The Governor of the fortress in which he was confined, was a high-bred gentleman, and made his prisoners as comfortable as possible, and at last released Mr. Emmet on his own responsibility. From Scotland, Mr. Emmet went to France, and after remaining there some time took refuge in the United States. He was now near 40 years of age, and had suffered enough to break down a common man. At first he was in doubt which profession to pursue, medicine or law. He visited Washington city, in the District of Columbia, and was admitted to the bar of that territory, but he thought of settling in Ohio as a state of great promise, and free from the curse of slavery—but he was induced to fix his residence in New-York, by the persuasion of George Clinton, by whose influence all difficulties in the way of his practising at the New-York bar were removed. De Witt Clinton also became a friend of Mr. Emmet, and used his influence—always truly great—to get the stranger into professional business. He was no sooner admitted than his briefs were as numerous as he could wish. He had some slight difficulties to encounter, but he lived them down, and *won the wise, who frowned before, to smile at last.* His feelings had been so deeply wounded, that he could not be still, and on every occasion where his own, or his country's wrongs were alluded to he became the lion. His contest with the patriot Rufus King, was one of great bitterness. They have gone down to the tomb, and charity should soften their asperities by believing that both were honest men, estranged by extremely different views of the rights of man, and of the proper and best interests of society.

In 1812, Mr. Emmet was made Attorney General of the state of New-York, and discharged the duties of the office, for the short time he held it, with great ability and integrity. In private life, Mr. Emmet was bland, courteous, friendly and accessible. All his errors of thinking or feeling, arose from a heart too big for a human bosom. In thinking on the wrongs of his country, he spoke with a tongue of fire. His soul panted for the power to annihilate the foes of Ireland, but he was too wise to believe that he should ever possess it. The destinies of that country are yet in darkness and in doubt; but this darkness was made intensely horrible by flashes of prophetic feeling that seemed for moments to illuminate his mind.

Mr. Emmet had in his elements a combination which dull men do not understand, but which, nevertheless, often exists, a prolific imagination and a gushing heart, with a truly logical mind. He read much and thought more, and if a fault could be found in his argument, it was that he waxed too warm before the fight had thickened. He knew all that had been said upon his case, and pondered deeply upon what might be added. If sometimes he convinced himself of the soundness of his argument before others had become satisfied, he continued until all were sure that he had not contented himself with a superficial survey of his subject. He put more of personal friendship into a case than perhaps is prudent for an advocate at any time. In some of his forensic fights, from some, perhaps, accidental partiality, he seemed to hug his client to his bosom as Peruvian Rolla did the child of the woman he loved, but not his own, to the pouring out of the fountains of life,—for instance his speeches for Judge Van Ness, for Fulton, and his clients the united Irishmen, whenever and wherever he defended them—and perhaps a hundred others. If he felt that he was crowded upon and chafed, he was most powerful in his retorts—but always gentlemanly in his language. Pinkney felt the edge of his sarcasm, and many others his cutting satire.

Mr. Emmet had many advantages over other men. He was a fine classical scholar and had studied two professions, which gave him a broader view of human nature than those exclusively bred to any one profession could possibly possess. One of his professions leads the mind through all the mysteries of physics, and the other to the science of metaphysics, and those years of misfortune we have recounted, were not without their uses on his powers of reasoning and reflecting; as the waters sprinkled on the coal of the forge, while the bellows are plying, makes the central heat more intense. The per-

son of Mr. Emmet was above the common size. His features had an expression of sorrow about them. The first impression that one had on looking at Mr. Emmet, would induce him to say, there is one who has thought much and suffered much—the very tones of his voice had a touch of lamentation in them.

Mr. Emmet suffered from no lingering disease, but died in the discharge of his duty, and according to his own wishes with his harness on. He had been engaged in a cause of great importance—that of the Sailors Snug Harbor—and was proceeding in the argument, when he fell in an appopletic fit and expired in the course of the following night. He was greatly lamented by all classes of people, and particularly by the court and the bar. All the clouds that lowered about him on his arrival in this country, had been made bright and shining by his honorable course of conduct, and he fell as it were on the bosom of an affectionate and an admiring community. A monument of white marble, surmounted with a bust, an excellent likeness, has been erected in the court-room where he was seized with his fatal illness, with this inscription:

THOMÆ ADDIS EMMET,
Viro—
Doctrina, jure, scientia, eloquentia,
Præstantissimo
Inter, hæc, subsellia et officii munera,
Subita, morte, corrupto
Sæcli, forensis, posuerant.

Not contented with all these marks of deep grief, his friends have erected to his memory a noble monument in St. Paul's church-yard in the city of New-York. It stands near the flagstone of Broadway, with several pertinent inscriptions, which are read by the passing traveller every day of the year, and some of his countrymen are seen gazing at it from morn to night—shedding the salt and bitter tear of recollection at departed greatness, and their country's wrongs.

"The monument," says the New-York Mirror, "is an obelisk consisting of one entire block of white marble, about thirty feet in height. On the face of the obelisk fronting Broadway, and near the top is a medallion likeness of Emmet in bas relief of colossal size, and presenting a very striking resemblance to the distinguished and highly gifted original."

Below is the following English inscription, composed by the Hon. Gulian C. Verplanck. It addresses itself with equal force to the heart and the understanding; and, while it celebrates the praises of a great departed intellect, speaks also in terms not to be mistaken for the warm feelings and accomplished mind of the author:

In memory of THOMAS ADDIS EMMET, who exemplified in his conduct, and adorned by his integrity, the policy and principles of the United Irishmen—"To forward a brotherhood of affection, a community of rights, an identity of interests, and a union of power among Irishmen of every religious persuasion, as the only means of Ireland's chief good, an impartial and adequate representation in an Irish parliament." For this (mysterious fate of virtue!) exiled from his native land, in America, the land of freedom, he found a second country, which paid his love, by reverencing his genius. Learned in our laws and in the laws of Europe, in the literature of our times, and in that of antiquity, all knowledge seemed subject to his use. An orator of the first order: clear, copious, fervid, alike powerful to kindle the imagination, touch the affections, and sway the reason and the will; simple in his tastes, unassuming in his manners, frank, generous, kind-hearted, and honorable; his private life was beautiful, as his public career was brilliant—Anxious to perpetuate the name and example of such a man, alike illustrious by his genius, his virtues, and his fate; consecrated to their affections by his perils, his sacrifices, and the deeper calamities of his kindred, in a just and holy cause; his sympathizing countrymen erected this monument and cenotaph. Born at Cork, April twenty fourth, 1764; he died in this city November fourteenth, 1827.

A figure of the American eagle is seen beneath this inscription resting on the Irish harp, which, as an emblem of the condition of Ireland, is represented as unstrung; and surmounting these are two hands clasped together, on the bracelet of one of which are the stars of our Union, on that of the other, a wreath of shamrock.

The following Latin inscription, on the face towards the church, has been furnished by John Duer, Esq. Of this we need scarcely say more, than that it amply sustains the reputation of this gentleman for superior classical attainments and exalted talent.

M. S. THOMÆ ADDIS EMMET, qui ingenio illustri, studiis altioribus, moribus integris, dignum se præstabat laudibus ill is, ill a reverentia, illo amore quæsemper eum viventem prosequebantur; et subita illo erepto morte, universæ in luctum elivitatis se effuderunt. Quum raro extiterit vir naturæve dotibus, doctrinæve subsidiis omnibus illo instructior; tum eloquentia alta illa et vera qualem olim mirabantur Roma Athenæque, præcipue aliot anteibat; gravis, varius, vehemens, fervidus, omnes animi motus ac regere novit, ut eos qui auditrent quo vellet et invitos impelleret. Hibernia natus, dilectum sibi patrium diu subjectam alieno, servis tantum ferendo jugo ad liberiatem, ad sua jura vocare magno est ausus animo: at præclara et consilia et vota fefellere fata. Spe, non animo, dejectus nobilis exul; et hæc Americana libera respublica illum excepit, eivemque, sibi gratissimo

adscivit; dein hæcivitas illi domus, hæc patria fuit, hæd gloriam illi auxit, hæc spiritus ultimos recepit. Mærentium civium voluntas hoc exegit monumentum.

An inscription in the ancient Irish character and language, from the pen of the Right Rev. Bishop England, of Charleston, South Carolina faces Fulton-street.

"He contemplated invaluable benefits for the land of his birth; he gave eclat to the land of his death; and received, in return, her love and admiration."

George Bethune English has filled such a particular place in our history, that he should not be omitted in American biography. He took his own path to fame, and imitated no example. He could not complain that any one had led him astray. He was original and eccentric by nature, and he followed the dictates of his own judgment, and pursued every image his fancy created at pleasure. The character of such a man is liable to be misunderstood and misrepresented, because many will hear of his singularities, when but few will have an opportunity or a disposition to read his character fairly; and it must be confessed that is somewhat difficult for those who had a firm friendship for him, to do it thoroughly, as it abounded in hieroglyphics and seeming contradiction; not that he had any reserve about him, for he was as open as day, and spoke undisguisedly upon all subjects.

He was born in Boston, and received the first rudiments of his education in the excellent schools of that city. From the public school he went to Harvard College, and was graduated with the class of 1807. In this institution he was distinguished for his love of learning, and for his lofty and refined sentiments of honor. On leaving college he became a student in law, and entered philosophically into the science; but it was his misfortune to dislike some of the hard features of the common law, and he early began to write against it: probably before he had throughly seen how much these features had been softened by statutory provisions and common sense decisions. If his criticism bore the mark of juvenility, still, it was acknowledged by all who read them, that they discovered uncommon research and much acuteness of mind. This was not all. He made many objections to the practice of the law; some of which, probably a greater part of them, would have soon disappeared, and in fact, would have been absolutely lost in a few years of respectable practice. After reading the usual course he was admitted to the bar of Suffolk, but never appeared in any cause before court or jury; for he had given up all thoughts of pursuing the law as a profession. He then turned his attention to divinity, and repaired to Cambridge to commence his studies. In the fine library of that university he was a book-worm for three years, and then appeared as a preacher of the Gospel; but not as a candidate for the ministry. It was agreed on all hands, that no one in this country had ever presented himself as a preacher for the first time, with so much profound biblical knowledge as Mr. English, but his eloquence was not of a high order, nor his sermons of a very popular cast: in the former his friends were greatly disappointed; for he was a most admirable reader of the Bible, and also of Shakspeare and of poetry, in rhyme, or blank verse; but the loud tones of his voice had a sharpness in them better suited to the bar or any other place than the pulpit. That his sermons should have been too learned, metaphysical, and controversial, might have been anticipated by those who knew how fond he then was of disputation, and investigation. He soon discovered by the feelings of his audience that he was not a popular preacher, and he saw that he had disappointed the expectations of his anxious friends, and others of a community always delighted with the first fledgings of genius in the pulpit—and who sometimes in the yearnings of their affections for the youthful man of God, mistake the pinions of some lesser bird for the wings of the young Eagle. With the impression on his mind that he had not been equal to himself, he paused in doubt whether to proceed or not, in his profession; but probably he would have made an attempt to correct his errors, which was easily to be done, and have pursued his profession, if some doubts of the truth of the Christian Revelation had not previously insinuated themselves into

his mind; and as the doubts increased, his honesty revolted at the thought of playing the hypocrite in diffusing the doctrines in which his faith was not sound and steadfast. In the Cambridge library he had found about all that is extant of the Jewish literature, and this was read with avidity until all belief in the authenticity of the New Testament was obliterated from his mind, and the inspiration of the Old more firmly established. Here was the great error of his life. Entangled in the mazes of the biblical criticism, he forgot to drink deeply of the humbler spirit of the Gospel, and in the pride of human learning he followed the phosphoric light of infidelity for his guide, instead of seeking, with that light which cometh from heaven, the straight and narrow way that leadeth to life eternal; but never was there a man more honest in his deviation from the true path way than George Bethune English. He was unfortunately not contented to stop here, and incarcerate his thoughts within his own breast, but erroneously believed it to be his duty to promulgate his opinions, which he seemed to consider as discoveries in part. In this he was in an error, for the infidels of a former age had anticipated most of his arguments; they had gone over much of the same ground, and some of them had paid more attention to the beauties of style than he had, and of course had been more dangerous to Christianity. In all this, if he had examined his own heart he would have found more of pride and vanity than he was ever willing to allow; but this cannot be remedied now; nor should it be regretted, except as it relates to himself, for his book had done more good than harm. The ignorant and vulgar could not understand it, and the wicked who were intelligent did not relish it, for it was not seasoned with the wit and ribaldry of Voltaire or Paine. There was nothing profane in the spirit of the work; the undertaking alone was the crime. Many of our young clergymen were induced to push their studies much further than they would have done if the book had not made its appearance. They had declaimed against hoaryheaded infidels, or those long since dead; but now they were obliged to follow one of their own age through the laborious labyrinth of learning, and fight him step by step. To do this they were obliged to study hard, and their parishioners reaped the fruits of their labors. Cary and Everett, these two young clergymen, were the only opponents that the writer ever heard Mr. English mention. The productions of their pens were extensively read, and were much admired by the public, particularly the work of Mr. Everett. This gentleman was then a preacher of high attainments, and the idol of a large circle of friends, and every thing he wrote told well. English acknowledged that Everett was learned, but complained that he was not fair, inasmuch as he treated him with the asperity due only to those who attempt against their better judgments, to corrupt the public mind, which was not his case. Of this, the writer will not undertake to speak; for it is seldom that religious opponents think correctly of each other. Mr. English did not see Mr. Everett's book until after several years from the time it was published, when he received it in Egypt. He wrote an answer to it; but this has not been extensively circulated —Mr. English's friends advising him to suppress it, as a revival of the controversy could not add to his reputation or to the chances of his advancement in life. When the first burst of indignation at the promulgation of such opinions was over, Mr. English looked around him for some employment. In New-England, he was shut out from every thing that depended upon public opinion. What course to pursue for a living, he did not know until he remembered that in his earlier days, he once thought of a military profession, and had treasured up much information to prepare himself for it. He had made himself acquainted with both the ancient and modern tacticks, and had practised every manœuvre on the black board, long before that instrument of the education of the present day was in common use, or even hardly known among us. In this state of his affairs, he applied for a commission in our army; but did not receive one. After a while spent in the Western country as an editor of a paper, he

was appointed a Lieutenant in the Marine corps. It has been said that he took a look at the South American patriots, before he received this appointment; but they did not suit him; but of this I never heard him speak. His office in the Marine corps, if the emolument was small, placed him amongst gentlemen, which was gratifying to his taste; and, it is said, he was a favorite with them. In this capacity, after some time he sailed to the Mediterranean; but from offers made him, by Ibrahim Pacha, he resigned his commission in the Marine corps of the United States, and accepted a command in the Egyptian army, then preparing for the conquest of Abyssinia. It was enough for English, that no European foot had been imprinted in the soil of that country for more than three thousand years. He presented to the consideration of the Pacha, two plans for the campaign, In one he urged the use of a chariot armed with scythes, after the manner of the ancients, with this difference in the machine and its movements, that it was to be propelled with horses, under bullet-proof cover, in the rear, instead of being drawn by them as those of Persia, and other oriental nations. The machine was made, and in his opinion would have succeeded, if he could have found an honest whip, or if the cavalry had not been jealous of the invention. In trying the machine it was dashed against a stone house in Grand Cairo, and destroyed, but he constantly maintained, that if he could have commanded an American stage driver, it would have gone well, and would have been a most destructive engine of war.

The second proposition was to form a park of artillery for the campaign, to be drawn over the sands and deserts by patient, and labor-enduring camels, instead of horses, taking horses only to be used when near or on battle ground. Camels had never before been harnessed to the draught; but on trying were found to be tractable, and by kindness easily broken to the labor. Twelve brass pieces, of from six to twelve pounders, were taken with the army, and a corps, drilled by English, were selected for this service, who made admirable artillerists. Thus equipped the invading army marched under Ismael Pacha for Abyssinia. Mr. English being general of the artillery corps, with the title and emoluments of his rank. Abyssinia is a land of romance—the cradle of man, where the swadding bands of infant nations remain in the same fashion as they were found in the first ages of time; a region over which the Roman eagles never flew; a territory that Napoleon, in the madness of his ambition, never thought of conquering. Here were seen and noted by English, the sepulchral monuments of kings and queens, and the mighty of the earth who lived in the days of Solomon, or long before his time, rising in pyramids of one to two hundred feet high from the present surface of the ground. More than four hundred of these pyramids he examined, and took minutes of their size. In the first battle fought with the Abyssinians, the artillery did much execution, and in fact decided the battle. This excited the envy of *Ismael Pacha*, and from that period, he treated English with coolness; and on his remonstrating with the Pacha, on some flagrant instances of cruelty practised in his army—such as impaling three officers for some trivial offence, an open quarrel ensued, and English left the army with a few horsemen, as a guard, for Cairo, where new difficulties awaited him; for Ibrahim Pacha, to get rid of the reward he had promised if the army should reach a particular point at a certain time, finding that this was accomplished, had no other way of escaping from his promise than to seek a quarrel, alledging that English had left his son without a justifiable cause. The award was stipulated at twenty thousand dollars, and this was too large an amount for Asiatic avarice to part with, where there was no tribunal to enforce payment. Thrown again upon the world he sought the shores of Christendom, and doffed his Turkish dress, and was not a little weaned from his admiration of Oriental usages, and somewhat shaken in his faith of Musselman integrity and honor; but though disappointed he was not discouraged. In less than three months after English left Ismael Pacha's camp, the youthful tyrant was massacred with most of his officers: while English was

with him all went on prosperously. Before he went to Egypt, he had spent some time at Constantinople, and there acquired a very considerable knowledge of the Turkish language, and a better acquaintance with the state of that Empire than had ever been promulgated to France or England, and both of these nations had maintained splendid embassies there for many years. Speaking the language, and wearing the Turkish costume, he mingled with every class of people, and of course obtained in a short time, more information of the real state of affairs, political and domestic, than a legation who understood nothing of the language, could acquire in many years residence in the city. This knowledge he imparted to our government, and by them he was appointed an agent in that quarter, with letters to our public functionaries in the Mediterranean. For these services he was scantily paid, without distinction of honors: the higher representatives of a republic generally pine in obscurity abroad, for want of means to live, and the minor agents are left to supplicate for a miserable allowance on their return; and this generally dealt out to them with supercilious grudging.

In July, 1827, Mr. English returned to this country, and has spent most of his time since, until his death, in the city of Washington, waiting for employment; but he was a wretched solicitor for favor of any kind, and government did not seem to require his services. It is said that he was about to be employed when he was taken sick, but of this the writer does not speak from authority; one thing he knows, that there is one man in power, with whom the deceased was acquainted, that knows how to measure and how to value letters and science as well as any man in this country, and that man knows, too, how accurate was the information communicated by Mr. English; and he can bear testimony that the suggestions, conjectures, and anticipations of the American agent, have proved his sagacity and foresight. It is in vain to repine; it has often happened, and will again to the end of time, that hollow-hearted and empty-headed vanity, by pertinacity and obsequiousness will snatch the bread from men of understanding, and steal away the favors intended for men of skill. Enough has been given of the history of Mr. English to show that his life was an eventful one, and his mind of no common character. His virtues were numerous; and his errors those of the head, and not of the heart. He was somewhat lofty and proud; but never overbearing or unjust to others. He was brave; but with all that prudence so necessary to personal safety. His mind was a logical one; and his passion for what he thought truth, a paramount principle; and strange as it may seem, he was naturally religious, for he had traced all things up to the Great First Cause:—the source of wisdom, power, and goodness. He delighted in demonstrating these attributes of his Maker. Although his mind was strong enough to grapple with any subject, still it must be acknowledged that he had no very extensive share of that exalted gift of genius, a rich and prolific imagination which creates and embellishes for posterity. His memory was well stored with facts, and reasonings upon them; but he did not possess much of what may be called taste, for vernacular thoughts and common life acquirements were mixed up with 'classical images and barbaric spoils:' he would talk with as little emotion of his resting in the shade of the great pyramid, as of a game of football in college-yard; and, although his appetite for new scenes never seemed to be diminished, yet he had reached the "nil admirare," said to be a constituent principle of greatness. He had nothing of the traveller's fondness of display. He never poured out his streams of knowledge until the hydrant was opened by inquisitive friends who knew something of its deep reservoir. He possessed to the last, an unsophisticated mind, and an open, generous heart. His good word, his pen, his sword and purse, were all at the disposal of his friends. It was not the mere gallantry of conventional courtesy; but a deeper and better principle. His excitements for his friends were strong and lasting, and his proffering of friendship sincere and timely. It happens to weak minds, that they sometimes forget the few in their acquaintance with many. It was not so with English; he cherished the most ardent affec-

tion for his kindred, as those who have heard him mourn the loss of his mother, or speak of his father's kindness, or of his fraternal ties, can witness.

He remained firm in his creed to the last, but he long regretted that he should ever have been induced to promulgate his doctrines, and for years past, he has never touched upon the subject of religion, unless he was drawn out by others, and then he defended himself manfully. In loaning his book in answer to Mr. Everett, to a friend, he observed, "be cautious that your daughters do not get hold of it, for I would not shake their faith, or interfere with their mother's pious instructions for the world—I hope and believe that my sister has never seen it." Nevertheless he persisted in saying, that there was more sincerity in the worship of the mosque, and the synagogue, than in the Christian churches.

The life of such a man is full of lessons of wisdom to those who will profit by them. It shows more fully that the church of Christ is built on a rock, and that nothing can move it. In the case of English, industry, talents, learning, honesty of purpose, and great zeal, have ended in nothing but regret, disappointment, neglect, and almost ostracism and outlawry. This is a natural consequence of the feelings and the spirit of the community in which we live, towards one who ventures to speak so freely against our religion. We need not seek for special providences when general laws will answer to solve the difficulties in our reasonings in the moral world. We loved the man, and sincerely deplore his premature exit. He was fitted to have been useful to society, and an honor to the literature of our country. Had he lived in Europe, his eccentricities would have enhanced his fame, and with Park and Clark, and a hundred others, he would have gone down to posterity as one of rare qualities and daring adventures. The politicians of other countries may be as noisy as our own, but here their obstreperous notes drown the voice, and the praises of learning together. In other countries learning must, and will have a voice, and she is heard and listened to wherever she speaks, whatever may be the subject on which she treats. Mr. English left some few valuable works that he brought from Constantinople, in the Hebrew, Turkish, and Arabic tongues, which we hope will be preserved for some public library; and he has left, also, if they have not been destroyed, several manuscripts from his own pen, on the manners and customs of the Eastern nations; one containing some particulars of the secret societies of that country, which was the birth place of letters, and science. It was truly an intellectual feast to hear him read the Old Testament in the original, and translate and commentate as he went along. He threw into the shade other translations and commentaries by the minuteness of his knowledge of the Hebrew language, as well as of the habits and manners of the Jewish nation in every age of their history. When on this subject, his whole air and character seemed to change, and he grew as enthusiastic as a Rabinical master, chaunting the pages of prophecy.

The charge of having turned Turk, which was generally spread abroad in this country, and in Europe, he constantly denied. He said that he had often joined in prayer, both with the Turks and with the Jews, as they addressed the Supreme Being alone. He was fond of reading the Koran, to improve in his Arabic, and to become familiar with the Mahometan laws; but he spent ten hours on the Jewish Scriptures to one on the Koran. He valued the latter as giving a religious sanction in the minds of Islamites to an admirable code of civil law. He defended every passage of the Old Testament, while he laughed at the many singularities and the absurdities found in some of the chapters in the Mahomedan code. He frequently compared passages of Isaiah and of the other prophets, with the most sublime parts of the Koran. He has read to me the 91st chapter of the Koran, entitled "the Sun—revealed at Mecca," in which Mahomet makes Gabriel speak in the following truly sublime manner:—

"In the name of God most merciful—I swear by the Sun, and its brightness; by the moon when she followeth him; by the day when it showeth its splendor; by the night when it covereth him with darkness; by the earth, and Him who spread

it forth; by the soul, and Him who perfectly formed it, and inspired into the same its faculty of distinguishing, and power of choosing wickedness or piety—that he who hath purified himself shall be happy, and that he who has corrupted his soul is miserable."

The passages he used to contrast with this transcript from the Koran, to show the superiority of the Jewish scriptures were numerous, from the prophets, the psalmist, and other books, one in particular from Isaiah is distinctly remembered. It is in the 40th chapter beginning at the 12th verse.

"Who hath measured the waters in the hollow of his hand, and meted out heaven with the span, and comprehended the dust of the earth in a measure, and weighed the mountains in scales, and the hills in balance?

"Who hath directed the Spirit of the Lord, or being his counsellor hath taught him.

"With whom took he counsel, and who instructed him, and taught him in the path of judgment, and taught him knowledge, and shewed to him the way of understanding.

"Behold, the nations are as a drop of a bucket, and are counted as the small dust of the balance; behold he taketh up the Isles as a very little thing.

"And Lebanon is not sufficient to burn, nor the beasts thereof sufficient for a burnt offering.

"All nations before him are as nothing; and they are counted to him less than nothing and vanity."

An anecdote of his mastery over whatever language he chose to acquire, was related to the writer of this article by a gentleman of Marseilles. The Turkish ambassador who had been residing in England, was at Marseilles on his way home—at table he contended that no foreigner could acquire the Turkish language, to speak it as vernacular. This was said when English was present,—but he took his leave next day. Soon afterwards, a Turkish gentleman arrived at the house of the consul and was introduced to the ambassador. They lived in great intimacy for several weeks, the ambassador represented his new friend as the most learned man of the East, perfectly at home in Arabic, Hebrew, and other tongues, as in his own native Turkish. The gentleman at length left for England, and shortly afterwards Mr. English made his appearance. He had played the part of a Turk during that time, without exciting a suspicion.

Another extraordinary proof of his power in the acquisition of languages, was known to the writer from personal observation. The Cherokees had a delegation at Washington and took up their lodgings at a public house where English boarded, and it was observed that he was particularly fond of a bright boy that was with them. One day after the poor Cherokees had got out of patience with the government, they expressed themselves with great indignation and wrath. English heard them and reprimanded them in their own language with such eloquence and fluency as utterly to astound them. They thought the Great Spirit had sent him to reprove them and given him their language by inspiration. The fact was, he had made use first of the boy, then of the interpreter, and lastly of the whole delegation, to assist him in acquiring the Cherokee language—and then of their newspaper, which was sent to them from New Echota.

He had failings; and who is there without them? But they were not sufficient to eclipse his attainments or hide his virtues. To unforgiven severity, to persecuting zeal, to captious intolerance, to condemning rancour, and to all the hosts of evil hearts, be the language of our Saviour applied: "Let him that is without sin cast the first stone."

The analysis of the mind of English, is another proof to add to the thousands already on record—that an unbeliever is the most credulous of men, and that he who doubts the revelation of Christ, must swallow innumerable absurdities, contradictions, and palpable falsehoods, to get rid of a few apparent difficulties.

Mr. English died at Washington, in August 1828—and was buried in that city. His death was deeply lamented by a large circle of acquaintances, and all who knew him became his friends. Whether there has been a monument erected to his memory or not the writer is not able to say, but this he believes, that but few of our countrymen who have died at home or

abroad more unequivocally deserve such an honor.

Here repose the Ashes
of
GEORGE BETHUNE ENGLISH,
the
Oriental Traveller.
Of two liberal Professions
He was a distinguished Member,
But practised in neither.
He was learned
Without pedantry;
Brave, without rashness;
And determined
Without obstinacy.
Under the guise
of quietude
He cherished the spirit
of adventure;
and
Became acquainted
with war
in the
Saloons of Peace.
By opposing Bigotry,
He fell into Superstition;
By attacking the truth
of our religion,
He proved
Its Authenticity
And Holiness.
By his admiration
Of the old world
He showed the blessings
of the new.
He was fitted for
Any station in life,
But never held
A permanent place.
He was often the guide
of those
who concealed the sources
of their knowledge.
Not unfrequently
Others were paid
for services
Rendered by him.
He was neglected
by those
Who should have
Brought him succour,
And slightly noticed
by others
Bound to do him
Reverence.
His moral fortitude
Was not equal
To his natural;
And he shrunk
From simpering impudence
In the Coteries
of Fashion,
When he would
Have bearded a tribe
of Exquisites
In the battle-field,
Or driven them
Fearlessly
From the Halls of Learning.
Born and educated
To all the courtesies
of good society,
He felt a loathing
To the pretenders
to gentility,
And to the Minions
of Power.
He saw honors divided
among the ignorant,
And emoluments given
To the undeserving.
While waiting for
His piece of the loaves
of Office,
As was his due;
Bustling Inanity
Snatched it from
His hand
Not leaving
A sustaining crumb.
At his disappointment
Heartlessness
Laughed aloud;
Looking around
In despair
His heart strings broke,
And he fell a victim
of Sensibility
At the early age of 39.
Go, Traveller,
Whoever you may be,
Among the mighty
Or the humble,
and
Teach your children
That departures
From the common
Paths of life,
In thinking or acting,
However chivalrous,
Are dangerous;
And that success
And happiness
Depend more
On Prudence
With mediocrity,
than on
Profound acquirements
or
Transcendent Genius
So prone
to be
Misguided.

William Fessenden was born November 14, 1748, at Cambridge in the Commonwealth of Massachusetts, of respectable parents, but had the misfortune to lose his father when only ten years of age, and was left under the care of his good mother, with several other children in moderate circumstances, but by industry and economy she kept her family together, and carried this son through Harvard college before he had reached his twentieth year. He was of the class of 1768. He studied physic three years in his native town, but from some cause, perhaps not now known, did not commence practice, but turned his attention to divinity. While pursuing this second profession, he instructed a public school in Topsfield, in the county of Essex, in the same commonwealth, about twenty miles from Cambridge, and near enough to have some advantage from the college library which is rich in theological works. On leaving this school he was licensed to preach, and commenced as a candidate at Dunbarton in the state of New-Hampshire. A squad, to use the precise language of this day and generation, were about going from Dunbarton to make a settlement at Fryeburg, a border town on the line between Maine and New-Hampshire. The young divine went with them as a candidate for the ministry. He was betrothed at this time to one of their townswomen, a woman of excellent sense, and they settled him in October, 1774. His salary was but little more than that of Goldsmith's divine, who was passing rich on forty pounds a year. The backwood's divine had seventy pounds, lawful money, a year, but probably paid in produce, and therefore in all likelihood was truly less. He continued in Fryeburg until his death in 1805, May 6. When Mr. Fessenden went to Fryeburg, the place was indeed a howling wilderness. There was no settlement within thirty miles in any direction. It had but one mark of civilization about it, except what he and his friends gave it, and that was some bullet marks and sad traditions, commemorative of Lovewell's fight, which happened just half a century before. The nearest settlements—(a New-England man never makes a clearing)—were Standish in Cumberland county, on the road to Portland, Buxon, in the county of York, towards Saco; Meredith, in New-Hampshire, on the road to Concord in that state. All north to Quebec, in Canada, was Indian hunting-ground—then indeed free from blood, for the peace of 1763, had buried the hatchet between the New-Englanders and the northern savages. The tide of emigration however soon swept over the wilderness, and settlements immediately grew up. In a few years after the planting of a colony at Fryeburg, one was made at Conway, and Mr. Porter was settled in the ministry there, but for more than twenty years no minister was settled for many miles north of Mr. Fessenden, a country comprising the towns of Lovell, Sweden, Waterford, Norway, and other places where persons had commenced a settlement without an act of incorporation. The good divine spread himself as a missionary as opportunity offered, over all these three dreary places, and into New-Hampshire, without fee or reward. He preached among them the glad tidings of the gospel to all with the zeal of a primitive Apostle, and shared the fate of their privations, if he was spared their martyrdom. Among these destitute flocks he often preached several times a day, for some came many miles to drink "sweet waters welling from that sacred spring." To extend the Redeemer's kingdom to all who panted to enjoy it, was the duty and the delight of these border clergymen. Many of them were learned men, and had read great tomes of scholastic and polemic divinity. They reasoned much, and the very solitude in which they lived always drove deeply to the heart all they contemplated or enjoyed. *Fame*, *wealth*, and *honor*, could have influenced but little, these devout pioneers of the wilderness. Like the Sun Flower, they turned their faces to the *god of day*, in their season, with reverential homage, and then sank to their mother earth, leaving in the soil many vigorous plants to be reared in clearer fields, and with more temperate winds. The spirit of such a man is incorporated with every village improvement—seen and unseen—in the better cultivation of every acre of land, within many miles of

him, and with the improvement of the mind, morals, and disposition of every child in his parish. He is identified with every joy and grief of all around him. Knowing this, the good divine labored to found an Academy in his parish, and after great efforts succeeded. The institution has flourished and been the instrument of much good;—for a while it was under the care of Daniel Webster, the distinguished *Constitutionalist*, of the present Senate of the United States, another proof of the character of the minds that have been employed in directing our youths of the woods. Mr. Fessenden not only took upon himself the cure of souls, but remembering his three years devotedness to Æsculapius he procured medicines and carried them with him when he went on his missionary tours, and by studying the diseases of a new country, which were but few, he soon found himself successfully combating corporeal as well as moral maladies. This Academy was incorporated within eighteen years of the date of the settlement at Fryeburg, a comparatively short time from felling a tree, building a log-house, to teaching the classics. He preached until within a few weeks of his death, but for several years had relinquished his salary, finding that he had been blessed with the smiles of fortune as well as his neighbors. He represented the town of Fryeburg in the Legislature of Massachusetts for four years, viz:—in 1799, 1800, 1802, and 1804. In this body his wisdom and prudence gave him that influence such qualities will always have in an enlightened assembly, such as that of Massachusetts was at that time. In 1805, he was appointed a Judge of Probate for this county, in which he lived, but he died before he had entered on the duties of this office. This judicial office in that portion of the country, is generally filled by those of discriminating minds, honest views, and delicate feelings, and he was known to possess all these qualifications. The Judge of Probate is the first man, engaged in worldly affairs that widows and orphans see after they have returned from the funerals of their husbands and fathers. The judge should be a son of consolation as well as a wise adviser in these moments of heart-broken sorrow. We love to dwell upon one of this race of the true benefactors of mankind, for they are becoming scarce in this form, however profusely generosity and goodness may abound among us. These once steady lights on the frontiers are now changed for missionaries who tarry to do good for a season only, and then return to enjoy the charms of social life in the principal cities, and to replenish their purses for their labors. These itinerants may do good, but the substantial clergyman, who lived with his flock, and died among them, was, to say the least, as useful a man in his day and generation. Mr. Fessenden was an active advocate of those principles which led to the independence of the country, and spared no pains to establish a constitution which should secure the freedom of his country, and support the rights of man.

Benjamin Franklin, the mechanic, the philosopher, the writer, the statesman, and one of the builders of a nation, was born in Boston, in the state of Massachusetts, on the 17th of January, 1706. His father was a respectable mechanic, and Benjamin, after spending a few years of his boyhood in a public school in that town, was taken into his father's shop; here he showed that his mind was too active for such a situation; and he was bound as an apprentice to his elder brother, who was a printer, and proprietor of a newspaper. Benjamin soon became more distinguished than his master, and this created disturbance between the brothers, and ended in a separation when the apprentice was about seventeen years old. His mind was wonderfully matured for that age: and many pieces, attributed to the first men of that period, were written by this boy in a garret. He read with great avidity every book of philosophy that he could get into his hands. The works of Locke, and Addison, had at this time reached our country; and also several English translations of the classics, from which he derived much instruction. After leaving his brother he journeyed to New-York, and from thence to Philadelphia. In this latter city he soon became known to several literary and scientific men, and was induced by their opinion and particularly by that of the governor of Penn-

sylvania, who proffered him assistance, which however was never afforded, to sail for England. In England he worked at his trade as a printer; but not finding encouragement there, he returned to Philadelphia, and soon after began his first publication, "Poor Richard's Almanac," which in a short time became a very popular work; and in 1732, he united to his labor a newspaper. In 1736, his fame became so great and extensive in Pennsylvania, that he was called into political life, by being chosen as clerk to the general assembly of that state, the duties of which he discharged with so much ability, that the very next year he was appointed post-master at Philadelphia. This was a very responsible station, from the circumstance of its being a distributing post-office for a great extent of country. By means of this appointment, he acquired more statistical information than was possessed by any other man in the country; which proved to be of great service to him, in the discharge of the high duties, to which he was afterwards called. The Indians on the Ohio had now forgotten the friendship of William Penn, and were dangerous enemies on the frontiers. Under these circumstances, Franklin undertook the task of persuading the good people of Pennsylvania, to arm and discipline a military force of citizen soldiers. This was effected, but was no easy task. Franklin himself, had no small share of military talent; but thinking that he would not make much of a parade officer, he never accepted a commission in the corps, which he was so active in raising. This, perhaps, more than any thing in his whole career, shows his extraordinary foresight, as his simplicity and hatred to show, made all the pomp of war offensive to him. He however saw that arms were necessary to maintain natural rights, and that a little parade was to be tolerated, rather than to give up self-defence. In 1741, he commenced a popular magazine, which was well supported, but its publication after a while was relinquished, on account of other paramount duties. By his influence, an insurance office, and a philosophical society, were established in Philadelphia. He was next appointed agent to England, for several of the colonies; and no man could have done better in that difficult situation. The examination he underwent before a committee of the House of Commons; the vile attack upon him during that examination, and the sustaining friendship of Chatham, are familiar to all. During this period he acquired great fame as a philosopher, in the learned circles of enlightened Europe; particularly in France, that nation of profound scholars, and enlightened critics. He staid in Europe as long as there was the slightest prospect of usefulness. His patience had become exhausted, although he had shown more of it than of resignation, and he now knew that no argument was left, but the ultima ratio regum. In 1775 he returned to his native land; and was elected a delegate to the continental congress. In this body, his counsels were of great weight, and from him the members derived a variety of information necessary to guide them at this perilious period. He was in Congress in 1776, and affixed his name to the Declaration of Independence; but he did not remain long to assist them with his sage advice, being soon after this sent to France as a commissioner, to induce that government to aid us in the revolutionary conflict.

He was popular in that country. Learned men, titled men, and even Royalty, seemed to vie with each other, in doing him honor. He at length saw his object accomplished; and his name affixed to a treaty of alliance with France, then at peace with Great Britain, and afterwards to treaties of friendship and commerce with other powerful nations of Europe. He seemed now not to belong to any one country, but to mankind; he had reasoned for all, and instructed all; and their admiration and gratitude was unbounded. The infirmities of age were now felt by him, and he had a natural wish to select a place for the repose of his ashes, in his native land. In 1783, he returned to Philadelphia, and his arrival caused a general rejoicing in that city, which was responded to, through the Union. His wish now was only to retire, and prepare for his departure to another world; but this wish he was not permitted to gratify; for the state of Pennsylvania elected

him their *President*, and continued him in office for three years, old as he was. On the 17th of April, 1790, Franklin died, in the eighty-fourth year of his age. Congress ordered a general mourning throughout the United States. At Paris, orations were delivered on his death by learned Academicians and Philosophers, who were rapturous in his praise, and lavished upon him every charm of eulogy. There has been no man, for centuries past, who made such an impression on the features of the age in which he lived, as Benjamin Franklin. He was intimately acquainted with the character and situation of the poor; and entered the palace as familiarly as the cottage. He had travelled over all sorts of minds, and examined all the machinery of society; and satisfied with what he had seen, and with what he had done, panted to explore other worlds to gratify his unbounded desire for knowledge. There are "immortal longings" in every soul, which prove its indestructibility. In one of his visits to his native city, he had erected a tombstone to his parents. It was a coarse and shivery slab, the best he could obtain at the time. The lovers of genius in that city have removed this stone, and erected a granite column of simple but imposing appearance; on one side of which the old epitaph Franklin wrote for his honest parents is preserved, and on another there is an inscription to the memory of the sage.

Robert Fulton, whose name is connected with steamboat navigation, was born in the town of Little Britain, in the state of Pennsylvania, in 1765. He was left an orphan, by the death of his father, at a very early age. His primary education was very limited, but his genius was very conspicuous even in his childhood. His inventive talent was known to all the mechanics in his neighborhood, before he was twelve years of age. Without any instruction, he discovered remarkable talents for painting, and while quite a boy, gained his living by his pencil, in painting landscapes and portraits. Franklin saw his talents, and incited him to develop them still farther. He was encouraged to go to England, and put himself under the care of his countryman, Mr. West. This, he did, and was received by that great and good man, with the friendship of a father. Fulton was an inmate of West's family for several years. He then, for some time, followed the profession of a painter on his own account; but his inventive genius was predominant, and his head was teeming with plans for the improvement of inland navigation, and other matters of utility. At this period he obtained several patents from the British government, some of which proved to be useful. His success as an inventor greatly improved his style in writing; for he was careful to use words that would, as near as possible, convey his meaning; and this early attention to a correct use of language is remarkable in all his writings; even those in which he expresses himself with the greatest enthusiasm. A mind, so prolific as his, could not for a moment be at rest, and he would often write papers upon matters of policy and political economy. Mr. Fulton left England for France, and formed a most ardent friendship with Joel Barlow, the American philosopher and poet, then residing in Paris. Living now with Mr. Barlow, and being at ease, he was at liberty to indulge his passion for invention. He projected Panoramas, Torpedoes, and other novelties; the latter invention he thought of so much importance to mankind, that he invoked national aid from France, then from Holland, and afterwards from England, but all to but little purpose; notwithstanding he had made many wonderful experiments to test the power of his "awful machine." The next subject that engaged his powerful mind, was the propelling of boats by steam. A hundred years before Fulton existed, the Marquis of Worcester had discovered the expansive power of steam; and inventions, suggested by this discovery, had been made from time to time, down to the great improvement on the steam engine by Watt: but as yet, no practical use had been made of steam in propelling boats. Experiments had been made in England, Scotland, and the United States, but success had virtually failed, until Mr. Fulton assisted by the late Chancellor Livingston, brought the invention to such a state of perfection in 1807, as to propel a

boat through the water at the rate of five or six miles an hour, and to satisfy the philosophers about him, that now, something practical has been effected. In a short time the public were so well satisfied, that he had achieved something for the benefit of the world, that New-York soon gave them certain exclusive privileges, in the navigation of the North River for thirty years, under certain restrictions. Fulton saw, when he first turned his attention to the subject of steamboats, that if he could succeed, he should re-create the western world, which presented to the adventurer fifty thousand miles of steamboat navigation, in all the great and small streams of that almost boundless country. He lived to see his anticipations realized. Experience soon corrected numerous errors, that theory could not anticipate; and the great wonder was daily becoming more wonderful. At this time, (and will not the fact be sufficient to silence the tongues of all cavillers,) there was not a steamboat on the Globe, in successful operation, but his own. This was built and was running under his direction. The difficulties which men of genius have to encounter, are innumerable. Every one who has had some vague idea of the same thing, claims to have been the original inventor, and cries out loudly that he has been circumvented, pillaged, and destroyed. Every mechanic, who may have assisted the inventor in getting his machine into operation, claims the honor of this or that suggestion; and if each and all were believed, there would not be a particle of merit left for the great mind whose intellectual light woke to life the swarm that was buzzing around him. The doubtful and the timid are ready to sneer, and but few, even of the judicious, are sufficiently brave to come out in the defence of a man who is venturing on a new and bold experiment. In 1809, Mr. Fulton took out his patent for his invention, and two years afterwards another, for some improvements on his original discoveries. The ingenuity of this, and other countries, was taxed to rival Fulton; so envious were many, that his success should be complete: but their powers failed in the attempt, and his triumph was acknowledged by all, who were not directly interested, to have been overwhelming to all his enemies. Small boats, somewhat different in the construction of their hulls, were built for ferry boats, and succeeded to admiration. The government of the United States was so well convinced of the inventive powers of Fulton, that it built a Steam-frigate on his plan, and under his care; which was however, not in readiness for use, until the close of the war in which she was to be engaged for sea-coast defence; but from the trial made after she was finished, there can be no doubt but that she would have succeeded to the full measure of his promise to the nation. Before this frigate was finished, Fulton had paid the debt of nature. He died the 24th of February, 1815, aged fifty years, an early exit for one who had done so much for his country, and indeed for the world. His fame was so extensive, that his death was sincerely mourned, by the whole of the great American family, for he was considered as national property; and much, very much, was still expected of one in the full vigor of mind and body. His disease was brought on suddenly; being a violent inflammation of the chest, produced from a cold, caught by exposure during an inclement season, while in the discharge of his public duties. Mr. Fulton had not only attracted the gaze of the world, but had secured many friends, who loved him for his virtues, and admired him for his talents. He was tall and graceful; and without hauteur or affectation; he was colloquial and affectionate, and at times spoke with eloquence and majesty. Avarice never had for a moment the slightest control over him; and if he ever seemed anxious for wealth, it was to lavish it in schemes of improvement for the benefit of mankind. His sharp dark eye never flashed with envy and hatred, but beamed with benignity on all around him. His enmities, amidst all his trials, soon passed away, but his friendships were imperishable. The splendid plates, done under his care and at his expense, to be found in the quarto edition of the Columbiad, are proofs of his friendship to Barlow; and that we possess some of West's paintings in this country, is more owing to his friendship, and respect

for his old master, than to the liberality of any other individual in this country. The United States should provide for his children, and erect a monument to his fame.

Elbridge Gerry was born in Marblehead, in the county of Essex, Massachusetts, on the 17th of July, 1744. He graduated at Harvard University, in 1772. At the age of 18, he went into a counting room, and pursued for several years, a commercial life; but coming forward at a time of high excitement, (and in no place was there more of it shown than in the patriotic town of Marblehead,) he soon became a conspicuous politician. In 1773, he represented his native place in the state legislature, and at once took a leading part. He was also chosen a member of the provincial congress, in 1774, and from thence was sent to the continental congress. He was there when National Independence was declared, and was a signer of that memorable instrument. In every matter that related to commerce, Mr. Gerry was put in the front rank, for he had made our commercial and naval affairs a subject of deep reflection. During the whole war, Mr. Gerry was a most active and generous patriot. His character as a financier stood high in congress, and he was engaged in all the committees that discussed this difficult subject. After the peace of 1783, Mr. Gerry served in the Congress of the confederation, when they proposed the form of a constitution for the United States, and was conspicuous in that august body, by his opposition to the constitution as reported by the convention, and recommended to the people. He was not alone in his views; yet that constitution was fortunately sustained by the people. No man should be condemned for an honest opinion. After the adoption of that instrument he assisted in carrying it into effect, and gave up all opposition whatever. In 1797, Mr. Gerry was sent as an Envoy to France, with Mr. Marshall and General Pinckney. The two latter were ordered from that country, but Mr. Gerry was permitted to stay. This gave his political enemies an opportunity to say hard things of him. Strange things were said, but Mr. Austen, his biographer, has given to the world Mr. Gerry's reasons for his conduct, which, when viewed dispassionately, have much force in them. Mr. Gerry was subsequently chosen Governor of Massachusetts, and afterwards Vice-President of the United States, in which latter office he died at Washington city, on the 23d of November, 1814. Mr. Gerry was a man of unquestionable talents, active in business, and urbane in his manners. There have been but few men in our country, who filled so many offices, and who discharged their duties with so much intelligence and spirit as he did. In the rancour of party, it is hard to discover the motives or merits of a politician. His political enemies never denied him decision of character, and his friends were warm and constant.

Stephen Girard, distinguished as a man of wealth, mind, and extraordinary bequests, was a native of Bordeaux, in France. He came to this country some years before the revolution. He came to this country *as a sailor boy*, and worked his way up to be a mate of a ship; but leaving the seas, he entered business in a small way, and dealt out beer and small groceries to seamen and others in humble life, but by frugality and industry he enlarged his business, day by day, until he commenced as a small West-India merchant, and at the close of the revolutionary war he was in great credit, if not very wealthy; he had managed his business with so much accuracy and punctuality, that the sagacious merchants among the *Friends*, gave him credit to any amount he might ask of them. His reputation for extensive wealth now became current, and was not for a moment disputed, to the hour of his death. He was, for many years both merchant, landholder, and banker. By the laws of Pennsylvania, he was enabled to open a private bank, and he conducted his business in so judicious a manner that his notes really represented gold and silver, and passed current, not only in the state of Pennsylvania, but throughout the country, wherever offered. He purchased, in 1811, the old banking-house of the United States, a marble edifice, at that time considered the finest business building in the world; and with it he took twelve hundred thousand dollars worth of the old United States bank

stock. This wound up well, and he made money by his speculation. He began his own banking business in the building he had purchased, and continued in it until his death. His bank became the largest in the United States, except the United States bank. There was scarcely a speculation from Philadelphia to Louisiana that he did not participate in, when he believed that it would benefit the public. His patronage seldom or never travelled north or east; perhaps they did not want his capital. He invested large sums in real estate, in the city of Philadelphia, and used his property generously and judiciously. He was acknowledged a great benefactor to the city of brotherly love. He was much the largest landholder in the city, and look about it where you may, you will see that the owner had an admirable forecast. Such a man writes his name on every corner-stone of the city, and the letters should never be effaced.

He lived to be a very old man, having died December 26, 1831, in the 84th year of his age. His bequests were extensive, and of a singular nature, amounting to three millions of dollars, or more, and the residue to Philadelphia, for improvements of the city. His whole estate is said to be 15 millions. There seems to be much caprice in his legacies, but he had the right to do what he chose, in an honest way, with his own. His own family connexions have the most reason to complain, but orphans and the poor, starved with the cold will have reason to bless him, again and again. The deaf and dumb will muse his praise in contemplating his bounty. In the lodge-room, and in the places where the charitable assemble, old Stephen Girard should be held in grateful remembrance;—and zealous patriots who are devoted to internal improvements will have ample opportunity of making use of his wealth. His college, trammelled as it is, with whimsicalities and eccentricities, is nevertheless, an excellent institution. His object was to prevent any sect or body of men from giving a sectarian cast to his institution, and in all probability the beneficial effects of this will be felt. The pupils are to leave his institution at 18 years of age, and be well instructed in the great and sublime doctrines of morality while there. There are but few Deists who are instructers; there is no danger of their ever getting within the "marble-capped and iron-guarded" walls of THE GIRARD INSTITUTION; and it is a general truth, that where there is no vice, that pure religion is a natural growth. As light, by the laws of nature, shines through a pure atmosphere, so does religion through pure morals, and uncorrupted manners. Never fear! the watchfulness outside the walls will keep all right within. It may be that the narrow-minded will always carp, and perhaps sometimes the judicious grieve, but millions will bless his memory.

CHRISTOPHER GORE was born in Boston, in 1758. He was the son of a mechanic of wealth and respectability: and was sent to Harvard University, where he graduated in 1776. Many of his classmates were highly respectable. Rufus King, Thomas Dawes, and others, who have since held conspicuous stations, were graduates of the same year. He studied law with the great Parsons, and soon took a respectable stand at the bar; it might be said with truth, a distinguished one. Before he was thirty years of age, he was elected from Boston, to the State Convention for adopting the United States Constitution, and labored in that body, most manfully. As soon as the government was organized under it, he was appointed by Washington District Attorney for the District of Massachusetts. In 1796, Mr. Gore was appointed one of the commissioners under the fourth article of Jay's treaty, to adjust the claims of American citizens on England, for spoilations made during the early part of the French revolution. He, with his colleagues, were assiduous in their duties, and seven millions of property were recovered for his fellow citizens. When the commission closed, in 1804, Mr. Gore returned to Boston, and was at once elected to the legislature of Massachusetts, first to the senate, and then to the house of representatives, in which body he possessed great influence. In 1809 he was chosen governor of Massachusetts, which office he held for the constitutional term of one year. He was an excellent chief magistrate; he would not

yield to party measures, but took his own course, and it was a manly one. In 1814 he was sent to the senate of the United States, and after serving in that body for three years, retired to his country seat at Waltham, in the neighborhood of Boston. This retreat bore marks of taste, for he had made it a most enchanting garden. Here he received his friends in the most courteous and kind manner. Mr. Gore was a man of fine talents, which were well cultivated. He was bold and firm, without asperity of manner; his person was elegant, and his manners as refined and polished as foreign courts could make them. He died on the first of March, 1827, in the sixty-ninth year of his age.

James Grainger, a physician and poet, was born at Dunse, a small town in the south of Scotland, about the year 1723. After finishing his school education, he was sent to Edinburgh, where he commenced his medical studies under professors who were highly celebrated through the medical world, and in due time he received his degree of M. D. He commenced his professional career as surgeon in the army, and in that capacity he served in Germany, under the Earl of Stair, till the peace of Aix-la-Chapelle, in 1748. He afterwards settled in London, and practised as a physician. While in London he published his translation of the elegies of Tibuleus; but this work did not receive the approbation to which he thought it entitled, especially from Dr. Smollet, whose criticisms were the occasion of a long paper war between them, and produced an irreconcilable difference. Probably his success in practice in London was not great, as he accepted an offer of settling advantageously in the island of St. Christophers, in the West-Indies; where, by marriage, he became connected with several of the principal families, and practised his profession with great success. He continued however to cultivate his attachment to the muses, and wrote, during his leisure hours, an interesting poem "On the Culture of the Sugar Cane." He likewise composed a treatise "On the Diseases of the West-Indies," for the use of the planters. At the conclusion of the war, he paid a visit to his native country, and at the same time published his poem, with copious notes, relative to the natural history of the island. He afterwards returned to St. Christophers, and continued to practice till the beginning of the year 1767, when he was seized with a fever, which then raged in the island, and died. Dr. Grainger was an able physician, and ranks considerably above mediocrity as a poet. An "Ode to Solitude," and "A West Indian Ballad," have been much admired. He published several medical tracts.

William Gray, one of the most successful of American merchants, was born in Lynn, in the county of Essex, and commonwealth of Massachusetts, in the year 1751. He came, when quite a boy, to Salem, and was an apprentice, first to Samuel Gardner, Esquire, an active merchant, but left him and finished his apprenticeship with Mr. R. Derby, also a business man of that place. Young Gray was an enterprising and indefatigable apprentice, and had acquired the confidence of the principal merchants in Salem, when he commenced business for himself, which in that careful and industrious town, was a fine capital to begin upon. Mr. Gray was early prosperous in his affairs, and in less than twenty-five years after he had commenced business, was considered and taxed as the wealthiest man in the place, where there were several of the largest fortunes that could be found in the United States. He was all activity, and at times had more than sixty sail of square rigged vessels. It was a fact that no moderate breeze could blow amiss for him, for every wind of heaven carried for him some vessel to port. For more than fifty years of his life he rose at the dawn of day, and was shaved and dressed before the common hour for others to rise. Being dressed, his letters and papers were spread before him, and every part of his correspondence brought up. He was, at the same moment that he put millions on the adventurous tracks for gain, with the boldest character, careful of all the small concerns of expenditure. This he considered as belonging to the duty of business. He had married in early life, Miss Chapman, of Marblehead, the daughter of a distin-

guished lawyer. They had five sons and one daughter. Mrs. Gray was a woman of great powers of mind, well cultivated, and for many years was among the first in the social circle.

During the embargo Mr. Gray took side with Mr. Jefferson, notwithstanding his interest suffered greatly. His ships were rotting at the wharf. This course brought against him his old friends and raised up a numerous host of new ones. He now removed to Boston, and was elected Lieutenant Governor of the state. He had several times been elected to the State Senate, but politics were not his strong hold, and he sunk the great merchant in the common-place politician. His immense wealth was used for the wants of the government with the liberality and confidence of one who believed that a government should not be poor when individuals were rich. It is doubtful whether any capitalist in the United States did so much for the exigencies of government as Mr. Gray. And while others were speculating on the depreciation of securities, no one will hesitate to say that his exertions were dictated by patriotism, with only the hopes of an honest remuneration. After the close of the war, he launched again into commerce, but not with his former success. Times had changed, but he had not changed with them, and what was a safe calculation once, was not so now; but still there can be no doubt but that he died a rich man, although no public inventory was ever taken of his estate, as his heirs gave bonds to pay debts and legacies—all the law of that state requires. Mrs. Gray died about two years before her husband, and his eldest son since his death. Mr. Gray was happy in his family, and was always a domestic man. He was worn out with the fatigues of business at the age of 74, and departed this life November 4th, 1825.

Joseph Green, a name which has long been familiar to every lover of mirth and playful satire, was born in Boston, in 1706, and graduated at Harvard University in 1726. Not being inclined to enter any one of the learned professions, he commenced business as a merchant. Trade at that time flowed in regular channels, and of course there was not so much risk as in this present day of enterprise and vigorous competition. He pursued his calling steadily, but had considerable leisure to attend to his classical studies, of which he was a constant votary. His circle of friends was not large, but was happily assimilated in tastes and pursuits. Their serious productions are forgotten, but some of their light and playful pieces have survived them. This club of wits watched every passing event, from the highest labour of the statesman, to the smallest occurrences of the hour, and turned every thing to merriment that was susceptible of it.

The world at any time affords enough to praise or blame, enough to make us grave or gay, whichever way we look. The store-house is sufficiently filled to gratify every disposition. Notwithstanding Green's fondness for mirth, and his disposition to engage in pleasure, his demeanor had nothing in it that savored of levity and thoughtlessness, either as a man or a citizen; and it does not follow that because men are mirthful, they are not serious. Wit, it is true, is sometimes found with profligacy, but she is also the companion of wisdom; and the purest and most severe will not deny that "he who gives no day to vice, may laugh an hour away." He was a retired, modest, unambitious, religious man, an enemy to parade and bustle, yet a bold opposer of arbitrary power, and a firm supporter of rational liberty. Bleecher felt the keen satire of Green and his associates. Not a speech or message came from the governor, that they did not ridicule in every form of prose and verse, nor did they spare the legislature when they thought that that body acted wrongly. In 1774, when the British parliament passed the act depriving the Commonwealth of Massachusetts of her chartered rights, and the counsellors were appointed by mandamus, Green was called to assist the governor in that capacity, but he instantly declined the honor, and resigned his seat. Some said this was a stroke of policy in Gage to conciliate Green, and surely it was not very comfortable to have him for an enemy. Others were of opinion that at that time

Green was apprehensive that he had gone too far in exciting opposition to the mother country, and had in some incautious moment avowed it. He probably was fearful of the consequences of a revolution, which he then saw was inevitable, for it must be recollected, that he was then an old man, and his health, if not his faculties, was on the decline. The next year, 1775, he left Boston for England, where he resided as long as he lived in seclusion, but surrounded by every comfort that opulence could give. Hospitality and generosity never deserted him. He loved his country, but the agitations of a revolution, which began with such fury before his eyes, and at his door, was too much for the nerves of an old man of literary and retired habits.

The beginning of hostilities was awful and the end was doubtful, and he wished not to go down to the grave in blood. The people were grateful for his past services, and never vilified his name for the step he had taken, but it was forgiven as a weakness of age. His works were as widely scattered as the leaves of the Sybil, so that but a few of them can readily be found at the present day. His "Elegy on the death of Mr. Old Tenor," is a fine mock lamentation. This has been several times printed, as also his "Satire upon the procession of Freemasons," which is in two parts, and was probably written on different occasions, and is a good specimen of his sarcastic powers. The Masons were among the first to join in the merriment it afforded, for the shafts of satire, which shoot folly dead, and gall avarice and ambition, fall harmless at the feet of charity. Her bosom "is armed too strong in honesty," to feel the taunts, or to shrink from the laugh of the world. A great many scraps of his poetry, epitaphs, acrostics, epigrams, and other occasional pieces, are now found in manuscript, and in the magazines of the day. The lines on Checkley are more rare than many others from his pen. "John Checkley was one of the wits of his time, and a very benevolent, good man, (he died 1753.) When recovering from a long and dangerous sickness, a number of his friends, who like himself were men of humor, by accident met at his house. His countenance, naturally very ugly, by sickness was rendered hideous. It was proposed that he should sit for his portrait to Smibert, an eminent artist in Boston, to which he gave his assent. Joseph Green was one of the company, and it was requested that he should sketch a few lines to be placed under it. Green sat down and wrote as follows:"

"John, had thy sickness snatch'd thee from our sight,
And sent thee to the realms of endless night,
Posterity would then have never known
Thine eye—thy beard—thy cowl and shaven crown.
But now redeemed, by Smibert's skilful hand,
Of immortality secure you stand.
When nature into ruin shall be hurl'd,
And the last conflagration burn the world,
This piece shall then survive the evil,
For flames we know cannot consume the Devil."

The wits of his club sometimes turned upon their leader with some point and effect. The epitaph on Green written by one of them in 1743, is a proof that like the characters in the "Retaliation," they understood one another—

"State Viator, here lies one,
Whose life was whim, whose soul was pun,
And if you go too near his hearse
He'll joke you, both in prose and verse"

Poets have been found in every age and nation. Long before the invention of letters, the muse had built the lofty epic to commemorate the deeds of heroes and demi-gods, and breathed the dirge in soft and mournful strains, over the ashes of the beautiful and the brave. These with unhappy loves and untoward fates, have floated down the stream of time, to rouse the soul to deeds of valor and to purify the affections, mingled with the comic and the gay to quicken the wits and cheer the spirits. The poetry of an unlettered, or a highly polished people has ever been considered a fair criterion of national character. In every stage of civilization, between the extremes of savage and enlightened society, it cannot be relied on as so accurate a standard, but in all degrees of refinement something may be gathered of the actions, thoughts, feelings and hopes of a people from their poetry. The early poetry of New-England was of a peculiar cast. It might have been supposed from the romantic situation of our forefathers, and their incessant reading of the Bible, that their poetry would have shown something of a wild and splendid character; but the hallowed coal,

which burned on the lips of Isaiah, never touched theirs. They caught nothing of the spirit of the scripture bards, and seemed equally to shun the enchanting beauties of oriental imagery and the sweet simplicity of primitive conceptions. Nor had their verses much of refinement and polish about them, but in general were stiff and quaint. The awful severity of religious sentiment destroyed the natural inspiration of genius. The dread of being thought profane, chilled every lively feeling and repressed the sallies of wit and mirth. Still poetry was cultivated as an art, and a knowledge of its rules was studied by every one who pursued a liberal profession. The clergy of that day were adepts in the "art divine," and could make verses on all occasions. When called upon in the course of professional duty to pronounce an eulogy on the virtues of a deceased brother or distinguished member of his flock, the pastor frequently poured out his grief in rhyme, generally fashioned on those immortal models, Sternhold and Hopkins. There were occasionally scintillations of a better taste; but they illumined the darkness only for a moment, and fell on nothing that would serve to kindle a flame. At this time, however, the general character of English poetry was not much better than our own; Chaucer, Spenser, Shakspeare and Milton are splendid exceptions; others of some note in their day occasionally appeared, but the common metrical productions had very little in them worthy of the name of poetry, until after the expulsion of the Stuarts. In that period of excitement in which men read and thought, and began to understand their rights; in that period preceding the dawn of the American revolution, when poetry was brought in aid of prose and eloquence to warm the heart and enlighten the mind, the shackles of the muse were broken and she wandered at large, and sported in every form of unrestrained freedom. This liberty was favorable to genius, but it was long before a good taste could be found gaining ground. Since our independence and the establishment of our civil institutions, we have been too busy to devote much time to poetry or the fine arts. But within a few years past numerous candidates for poetic fame have arisen, but as most of them are still living, and their labors of course unfinished it would not comport with my plan in this work to discuss their merits.

Nathaniel Greene, a Major General in the American army, during the revolutionary war, was born near the town of Warwick, in Rhode Island, in the year 1741. He received but a scanty, chance education, when a boy, but possessed sufficient sagacity to see and feel his deficiency. His father was an honest blacksmith, extensively engaged in making heavy work, but possessed little if any knowledge beyond that of reading the bible or almanac, or being enabled to write well enough to keep a day-book, in which to charge his neighbor with his work. But Nathaniel was not contented with this, he sought books, became his own instructer, and made rapid progress in several branches of knowledge. Those portions of ancient history, which treat of wars and the exploits of heroes, were the most attractive to the young Quaker; and while he wore his plain beaver, his mind was filled with the nodding plumes, and burnished armor of ancient days. From the workshop, in which he was engaged with his father, he was elected to the General Assembly of Rhode-Island, to represent the ancient town of Warwick, the place of his birth. He was in that body, when a proposition was made to raise a considerable military force, for the exigencies of the times. He had shown his taste for military life, in an independent company, raised previously, in expectation of the necessity of using force to protect themselves in the exercise of their rights. With a sagacity and foresight, seldom found in a popular assembly, the legislature of Rhode-Island took him from the ranks, and gave him the command of the whole, with the rank of Brigadier General. He accepted the command, and marched forthwith to the head quarters of the American army, at Cambridge. The keen eye of Washington soon marked Greene for a soldier. He saw the great military chieftain, in the youthful officer, whose maiden sword had not then been fleshed. In August, 1776, after having been but a little more than a year in the

him, and with the improvement of the mind, morals, and disposit on of every child in his parish. He is identified with every joy and grief of all around him. Knowing this, the good divine labored to found an Academy in his parish, and after great efforts succeeded. The institution has flourished and been the instrument of much good;—for a while it was under the care of Daniel Webster, the distinguished *Constitutionalist*, of the present Senate of the United States, another proof of the character of the minds that have been employed in directing our youths of the woods. Mr. Fessenden not only took upon himself the cure of souls, but remembering his three years devotedness to Æsculapius he procured medicines and carried them with him when he went on his missionary tours, and by studying the diseases of a new country, which were but few, he soon found himself successfully combating corporeal as well as moral maladies. This Academy was incorporated within eighteen years of the date of the settlement at Fryeburg, a comparatively short time from felling a tree, building a log-house, to teaching the classics. He preached until within a few weeks of his death, but for several years had relinquished his salary, finding that he had been blessed with the smiles of fortune as well as his neighbors. He represented the town of Fryeburg in the Legislature of Massachusetts for four years, viz:—in 1799, 1800, 1802, and 1804. In this body his wisdom and prudence gave him that influence such qualities will always have in an enlightened assembly, such as that of Massachusetts was at that time. In 1805, he was appointed a Judge of Probate for this county, in which he lived, but he died before he had entered on the duties of this office. This judicial office in that portion of the country, is generally filled by those of discriminating minds, honest views, and delicate feelings, and he was known to possess all these qualifications. The Judge of Probate is the first man, engaged in worldly affairs that widows and orphans see after they have returned from the funerals of their husbands and fathers. The judge should be a son of consolation as well as a wise adviser in these moments of heart-broken sorrow. We love to dwell upon one of this race of the true benefactors of mankind, for they are becoming scarce in this form, however profusely generosity and goodness may abound among us. These once steady lights on the frontiers are now changed for missionaries who tarry to do good for a season only, and then return to enjoy the charms of social life in the principal cities, and to replenish their purses for their labors. These itinerants may do good, but the substantial clergyman, who lived with his flock, and died among them, was, to say the least, as useful a man in his day and generation. Mr. Fessenden was an active advocate of those principles which led to the independence of the country, and spared no pains to establish a constitution which should secure the freedom of his country, and support the rights of man.

Benjamin Franklin, the mechanic, the philosopher, the writer, the statesman, and one of the builders of a nation, was born in Boston, in the state of Massachusetts, on the 17th of January, 1706. His father was a respectable mechanic, and Benjamin, after spending a few years of his boyhood in a public school in that town, was taken into his father's shop; here he showed that his mind was too active for such a situation; and he was bound as an apprentice to his elder brother, who was a printer, and proprietor of a newspaper. Benjamin soon became more distinguished than his master, and this created disturbance between the brothers, and ended in a separation when the apprentice was about seventeen years old. His mind was wonderfully matured for that age: and many pieces, attributed to the first men of that period, were written by this boy in a garret. He read with great avidity every book of philosophy that he could get into his hands. The works of Locke, and Addison, had at this time reached our country; and also several English translations of the classics, from which he derived much instruction. After leaving his brother he journeyed to New-York, and from thence to Philadelphia. In this latter city he soon became known to several literary and scientific men, and was induced by their opinion and particularly by that of the governor of Penn-

sylvania, who proffered him assistance, which however was never afforded, to sail for England. In England he worked at his trade as a printer; but not finding encouragement there, he returned to Philadelphia, and soon after began his first publication, "Poor Richard's Almanac," which in a short time became a very popular work; and in 1732, he united to his labor a newspaper. In 1736, his fame became so great and extensive in Pennsylvania, that he was called into political life, by being chosen as clerk to the general assembly of that state, the duties of which he discharged with so much ability, that the very next year he was appointed post-master at Philadelphia. This was a very responsible station, from the circumstance of its being a distributing post-office for a great extent of country. By means of this appointment, he acquired more statistical information than was possessed by any other man in the country; which proved to be of great service to him, in the discharge of the high duties, to which he was afterwards called. The Indians on the Ohio had now forgotten the friendship of William Penn, and were dangerous enemies on the frontiers. Under these circumstances, Franklin undertook the task of persuading the good people of Pennsylvania, to arm and discipline a military force of citizen soldiers. This was effected, but was no easy task. Franklin himself, had no small share of military talent; but thinking that he would not make much of a parade officer, he never accepted a commission in the corps, which he was so active in raising. This, perhaps, more than any thing in his whole career, shows his extraordinary foresight, as his simplicity and hatred to show, made all the pomp of war offensive to him. He however saw that arms were necessary to maintain natural rights, and that a little parade was to be tolerated, rather than to give up self-defence. In 1741, he commenced a popular magazine, which was well supported, but its publication after a while was relinquished, on account of other paramount duties. By his influence, an insurance office, and a philosophical society, were established in Philadelphia. He was next appointed agent to England, for several of the colonies; and no man could have done better in that difficult situation. The examination he underwent before a committee of the House of Commons; the vile attack upon him during that examination, and the sustaining friendship of Chatham, are familiar to all. During this period he acquired great fame as a philosopher, in the learned circles of enlightened Europe; particularly in France, that nation of profound scholars, and enlightened critics. He staid in Europe as long as there was the slightest prospect of usefulness. His patience had become exhausted, although he had shown more of it than of resignation, and he now knew that no argument was left, but the ultima ratio regum. In 1775 he returned to his native land; and was elected a delegate to the continental congress. In this body, his counsels were of great weight, and from him the members derived a variety of information necessary to guide them at this perilious period. He was in Congress in 1776, and affixed his name to the Declaration of Independence; but he did not remain long to assist them with his sage advice, being soon after this sent to France as a commissioner, to induce that government to aid us in the revolutionary conflict.

He was popular in that country. Learned men, titled men, and even Royalty, seemed to vie with each other, in doing him honor. He at length saw his object accomplished; and his name affixed to a treaty of alliance with France, then at peace with Great Britain, and afterwards to treaties of friendship and commerce with other powerful nations of Europe. He seemed now not to belong to any one country, but to mankind; he had reasoned for all, and instructed all; and their admiration and gratitude was unbounded. The infirmities of age were now felt by him, and he had a natural wish to select a place for the repose of his ashes, in his native land. In 1783, he returned to Philadelphia, and his arrival caused a general rejoicing in that city, which was responded to, through the Union. His wish now was only to retire, and prepare for his departure to another world; but this wish he was not permitted to gratify; for the state of Pennsylvania elected

nim in the congregational way, by the imposition of hands of Moreton and Phinney, according to the Cambridge platform; after which a suit was brought upon the bond against Lombard at the court of common pleas, at Falmouth; the case was largely argued by counsel, and Mr. Lombard was indulged to add something to what his counsel had said, to show that the man they had inducted to office, was not the minister meant and intended by the bond, and read some passages from a Greek Testament respecting the qualifications of a minister, the original of which he explained; but the jury found a verdict for the plaintiff. Lombard appealed to the supreme court, then held at York—the whole district of Maine being then in York county- Mr. Gridley was then employed as counsel, and the jury found a verdict for the plaintiff; after which Gridley moved in arrest of judgment —that there was no issue joined, which being apparent from the papers, judgment was arrested, a repleader directed, and the cause continued until the next term, when Gridley introduced a plea in bar, reciting the grant of the township from the General Court; the reservation of the parsonage for the use of a pious, learned, orthodox minister, &c. and then averred that the town had not settled another pious, orthodox, learned minister; Daniel Farnham, Esq. for the plaintiff replied, that they had settled another pious, orthodox minister, omitting *learned*, because, as was said, he was unwilling to put that in issue, and of this put themselves on the country. To this replication Gridley demurred for a departure in the replication, to which there was a joinder in demurrer. After a short argument, the replication was determined to be insufficient, and the court rendered a judgment in favor of Lombard, who being out of the court-house at the time of the decision, on being told he had obtained his cause, hasted into court, and to his counsel. Says Gridley, Man, you have obtained your cause—Lombard, in astonishment, asked him how?—How, sir? Gridley replied, you can never know until you get to heaven."

When Trowbridge was appointed judge, Gridley was made attorney-general, and held the office until his death. In this capacity he was sometimes called upon to defend opinions and principles which were not very congenial to his feelings as a patriot; but his arguments for measures in opposition to the popular opinion have nothing of arrogance nor timidity about them, but are fair and gentlemanly, and the reasoning of his opponent was always heard with great candor. Pride and power are restive at opposition, but Gridley discharged his duty to the crown without exasperating the people.

On the question of the legality of writs of assistance which at that time produced a great excitement, he was opposed by his former pupil and particular friend, James Otis—a man whose fame will be forever blended with the glory of the revolution. He was an advocate of high standing at the bar, at that period, and was every day becoming more distinguished. History, and his contemporaries have established his reputation for erudition, taste and address, and above all, for his unrivalled eloquence and its wonderful power over both court and jury. The discussion upon those writs is said to have been the commencement of that series of acts and opinions on the part of the colonies which terminated in the revolution and its consequences. From this time, which was shortly before Gridley's decease, there was no pause nor rest in the labors of Otis, for he was constant, open and bold in the cause of his country. Office, emoluments and royal favor and patronage sunk before his patriotism, and even considerations of personal safety were disregarded. His zeal was a living flame, pure, intense and holy, which warmed and enlightened his countrymen. As he marshalled them for resistance he taught them how to support and defend their conduct and feelings. His fate was singular as his path-way was luminous. For several years before his death his intellects were in a state of alternate gloom, obscurity and hallucination, until 1783, when he was relieved from pain and wretchedness, "and all that mighty minds can suffer," by a flash of lightning, on which was sent to him the angel of death.

It was not in his profession alone that Gridley was conspicuous, for he

was active and busy in various walks of life. As a legislator he was indefatigable in devising plans for the advancement of knowledge, and for the peace, comfort and prosperity of the Commonwealth, and his extensive information and well-tried integrity gave him an opportunity of doing much good. He knew that commerce and an acquaintance with the arts and sciences were indispensable to a people who were eager for liberty, distinction and prosperity. To advance the honor of his country, and to give facility to trade, he used exertions to make the merchants of Boston insure their merchandise and vessels at home, rather than in England; in this he had much to do, for the maritime law was then in its infancy in England. To assist the merchants more readily, he became a member of the Marine Society in Boston, and was their President for many years, and in all matters of commercial law his opinions were regarded as a standard authority.

He who feels within himself that power of genius which gives form and comeliness to whatever may happen to come under his guidance and care, is not readily confined to a narrow course of duties, but stretches his fostering hand with parental affection to fashion the infant institutions of his country.

Knowing that all possessions are nothing without power, valor and skill to defend them, and believing in the efficiency of the militia system for protection, if citizen soldiers were properly organized and instructed, he entered with enthusiasm into military affairs and accepted the command of a regiment. His appearance as a parade officer, or how successfully he discharged his duties on the field, I have not been able to ascertain, for most are gone who could tell us, and those who may remain I do not know.

Gridley preferred offices of honor and distinction to those of profit. Never was there a man whose mind soared at such a sightless distance above all low and mercenary views. If tradition be true and the memory of the aged can be relied on, he was too chivalrous for his own interest and that of his friends and family; but this error is too rare among men for me to stop the progress of this narrative to denounce it; the example is not seductive; men frequently follow a worse. Warm, ardent, proud, and generous, he never for a moment felt the spirit of rivalry and envy, though among his students and those who were under his patronage, there were many who afterwards held the highest rank at the bar, and several of them settled around him. In the freedom of remark which was indulged at that time, at the bar, he often declared that he had reared two young eagles who were one day to peck out his eyes. This observation was probably made to bring into notice his friends, Otis and Adams, and not from jealousy. The envious and jealous seldom indulge in panegyric.

The papers which announced his death spoke of his elevated views, his profound learning, and above all, the warmth, purity and steadfastness of his friendships. He died poor, and his executors were about to bury him as a private gentleman, but the merchants, the bar, the judges, and the masonic fraternity, all conspired to see who could honor his memory the most. The grief felt at his loss reached all classes in society, for he had done much good in the community, and had left the world in the fulness and maturity of his faculties. He died the 10th of Sept. 1767—not far from sixty-two years of age.

There is about the mind of a great man, conscious of his superiority, a calm, settled, dignified contempt for purse-proud insolence and meanness, which withers and blasts the little creatures who have been made by a successful speculation. Wealth when fairly obtained and properly enjoyed, can never fail to give its possessors standing and influence—it is a passport through the world, and it ought to be, when accompanied with the intelligence and deportment of a gentleman; but there is a race of men, bloated by the sudden acquisition of wealth, who swaggeringly demand the homage of all; from such, this haughty and elevated man turned with a sneer; but it was all the bitterness he had in his nature, and was gone as soon as the object that produced it had passed by.

It was fortunate for the masonic family, that a man composed of such fine elements, should become engaged at this early period in the cause of

the craft; his weight of character, his zeal and his ability to defend and support whatever cause he chose to espouse, was of great importance to them, and did much to diffuse masonic light and knowledge. The order of benevolence had but just been established in the new world when he was appointed its Grand Master, and he wore his honors unsullied to the last hour of his life. His coadjutor in planting and cultivating this exuberant vine of charity, whose flowers are fragrant to humanity, and whose fruit all nations have blessed, was the sage and patriotic Franklin; under such hands and by the smiles of Providence, its roots struck deeper and its branches spread higher every day, but the most ardent hopes of these philanthropists have been more than realized in the prosperity of our country and our craft. If their spirits could revisit the earth and take note of what is doing here, with what joy would they witness the extension and progress of every branch of knowledge among their countrymen! And with what pleasure would they count the numbers of charitable institutions which now shed their balsams upon the wounds of life!

Button Gwinnett was born in England, in 1732. He had received a good education, and after transacting business for some years as a merchant in England, he embarked for America. He at first resided in South Carolina, but afterwards removed to Georgia. He was a patriot by nature; yet at the commencement of our revolution, he feared the power of Great Britain; but at length he came to the conclusion that the colonies must be free and independent. After he had thus made up his mind, he came out, and boldly supported his opinion. In 1776, he was elected from Georgia to the Continental Congress, and was there to affix his name to the Declaration of Independence. After his return to Georgia, he was elected to the highest offices in the gift of the people; but in the collisions of party, his feelings were wounded, and forgetful of the station he was placed in, he challenged his adversary;—they met, and Gwinnett fell, May 27, 1777, in the 45th year of his age. He was a noble, high spirited man; yet, by a false sense of honor, he gave way to the practice of duelling, which was too common in the portion of country where he resided, and so sacrificed a life which promised to do honor to his adopted country.

John Hancock, the President of Congress, at the Declaration of Independence, was born in the year 1737, at Quincy, in the province of Massachusetts Bay. He graduated at Cambridge College, with the class of 1754, and afterwards became a merchant under the patronage of an uncle, Thomas Hancock, who by his industry and good management, had amassed a princely fortune. The father of John was a clergyman, who died when his son was quite young; the childless uncle became to him a father, and his wealth soon fell to the nephew who sustained the dignity of opulence, by all the forms of fashionable life. As a great crisis was coming on, the good people of Boston took care to secure Hancock, by making him a politician. He was first selected selectman of the town, a dignity second to none in the gift of a free people. The archons of Athens did not command so much veneration in the eyes of the community as the five selectmen of Boston—"the fathers of the town." Hancock was next sent to the General Assembly of the Commonwealth. He was urbane and graceful, and by treating the country members with attention, he soon acquired an extensive popularity. His house was open and free; he gave splendid dinners, and invited all the friends of liberty to partake of the hospitality of his mansion. In 1774, he was chosen by the town to deliver an oration on the massacre of the 5th of March, 1770. This oration established his reputation; it was bold and daring; he spoke freely of resistance unto blood in the most animated and indignant language. Soon after this time, he was elected President of the Provincial Congress, and the next year was chosen President of the Continental Congress at Philadelphia. He presided in this body with dignity and impartiality, and his manners were calculated to please all the members, whether of aristocratic or democratic origin and feeling. He was the first signer of that immortal instrument, "The Declaration of the Independence of the

thirteen United Colonies of North America." When Mr. Hancock returned from the Continental Congress, he did not leave public life; he was a member of the convention that framed the Constitution of Massachusetts, and was annually elected Governor of the State, except for one year, from 1780 until 1793. In 1786 he declined a re-election, and in that year of his administration, there was an insurrection in the state, but it was soon quelled, and every thing was again peaceful. Hancock was charged with vanity and favoritism; perhaps the charges were in some degree true, but when, let it be asked, was mortal man free from those sins? Many have said that he was not a great man; but did he not discharge all his official duties with great honor?—and what other proofs of talents do we want? His person was fair—his manners were elegant—his popularity unbounded—and he impressed every one with the belief that he was born to command. He had been subject to a cruel hereditary gout, which shortened his days, and he died on the 8th of October, 1793, in the 55th year of his age. Just such a man was wanted to fill just such a place. The American people, republican as they were, had been so long accustomed to the trappings of royalty in their Governors, that a man of ordinary fortune, would not have received the respect, nor have retained the influence that one would who could keep up such appearances as the people had been accustomed to witness. Hancock was not considered as being among the greatest scholars and orators of the day; it was while presiding in public bodies that he was the most conspicuous: there he was at home; master of the rules and orders then in use, he governed a popular assembly with ease, tact and dignity. Hancock filled the chair of the executive of Massachusetts longer than any other man has since, and probably would have continued many years more, if he had not been removed by death. His memory cannot perish; his hand-writing on the charter of independence will be read by countless ages to come.

Benjamin Harrison was born in Virginia, and was educated at William and Mary's college. He commenced political life as early as 1764, being sent at that time to the legislature. The British government made him offers of elevated situations, but he remained a firm patriot. From Virginia he was sent a delegate to the first Continental Congress. He was there when the Declaration of Independence was made, and took a decided part. He was a man of great vivacity, wit and humor, and when his colleagues grew melancholy, he enlivened them by a sally of pleasantry which made them for a while forget the clouds and gloom around them. Mr. Harrison was for some time a popular Governor of Virginia. He afterwards assisted in framing the constitution of that state, and subsequently the constitution of the United States. He died in the spring of 1791, while yet in active political life.

John Hart, a yeoman of fixed character, deserves to be noticed with the patriots of his time. He was born at Hopewell, in New-Jersey. He was an excellent agriculturalist, and was pursuing his peaceful course as an honest and upright member of the legislature of his native state, and doing good in his limited sphere, when he was with others, called upon to take part in the difficulties of the colonies with the mother country. In 1774, he was elected a member of the Continental Congress, and continued in that station for some time. He was also there in 1776, when the Declaration of Independence was made, and took a quiet but decided part in this great affair, for which he suffered much from British enmity, when they carried the war into New-Jersey; as orders had been given by the enemy, to look after these signers of the Declaration of Independence, and make examples of them if they were caught. Mr. Hart died before the close of the contest. His constitution was broken down by what he had suffered, and he left this world in the year 1780, bearing the reputation of an upright man.

Joseph Hewes was born at Kingston, New-Jersey, in 1730. He was a quaker, and graduated at Princeton college, after which he became a merchant. He removed to North-Carolina, when about thirty years of age. He was prosperous in business, and had the reputation of being an honest

man. In 1774, he was sent as a delegate to Congress from North-Carolina. He entered that body, with high and honest intentions, and was present when the Declaration of Ind pendence was made. He died while a member of Congress, November 10, 1779, in the 50th year of his age. He was a true patriot.

Thomas Heyward was born in South-Carolina, in 1746. He was bred a classical scholar; and commenced the study of law in his own county. After completing the usual term in this country, he went to England to finish his studies; after which he made the tour of Europe, a practice quite in fashion in those days. From his travels he returned home, not a fop, as many do, but a patriot. In 1775, he was sent to the Continental Congress. This was an astounding appointment to him; but his friends urged him to accept it, and he assented to their wishes. While in this body, he affixed his name to the Declaration of Independence. When he left Congress, he was appointed a judge in his native state. In his high calling, he was firm and just, and discharged his duty with great decision of character. He was also a soldier; and when Charleston was besieged, commanded a corps of militia. Here he was taken prisoner, and sent to St. Augustine, where he suffered much. On his return from imprisonment, he resumed his official duties; and was constantly employed in some important station until his death, which happened in March, 1809. He was a brave, patriotic and intelligent man.

Francis Hernandez, a naturalist and physician, who was sent out by Philip II. King of Spain, to make observations on, and to describe the natural productions of Spanish America. His pecuniary allowance for this purpose appears to have been ample, and he spared no expense to make himself acquainted with such objects as he was in search of. He wrote an account of their nature and properties, but it does not appear that he lived to superintend the publication of his labors; for in 1651, the result of his inquiries was edited at Rome under the care of the Lyncæan Academy, established in that city; the papers of Hernandez having been purchased by Frederick Cesi, a young nobleman who founded, and was perpetual President of the Lyncæi. This work had originally been published in the Spanish language at Mexico, under the name and care of Francis Ximenes, but the Roman edition, in small folio, came out in Latin, having the following title: "Nova Plantarum," &c. He does not appear to have published any other work on natural history, but this will entitle him to a grateful remembrance for having first unfolded the botanical treasures of that then little known part of the world.

William Hooper, one of the North-Carolina delegation to the Continental Congress, was born at Boston, on the 17th June, 1742. He commenced his classical studies at the grammar school, then under direction of old Master Lovell; and then entered Harvard University, from which he graduated with distinguished honors, in 1760. He commenced the study of the law in the office of that great patriot, James Otis. After preparing for the bar, he took a southern tour, to find a place to establish himself in his profession, and stopped at North-Carolina. His father wished him to return to the east, but he chose to stay and try his fortune there. Mr. Hooper pursued his studies with great ardour, and became distinguished at the bar. He early took an active part in politics, and became so popular, that he was sent to the first Continental Congress, in 1774. He was there on the memorable 4th of July, 1776, and signed the Declaration of our Independence. He was an eloquent man. After leaving Congress, he was actively employed in his adopted state. In 1786, he was appointed by Congress, one of the Judges of the Federal Court, and took a high rank among those appointed at the same time. He died in October, 1790, at the early age of forty-eight years, being the shortest lived among the signers of the Declaration of Independence.

Stephen Hopkins was born in Situate, then a part of Providence, Rhode-Island, in the year 1707. At that time, few had the advantages of education in this state; but he was one of those self-taught men, who are destined to make their way by force of genius and character. He was chosen a representative of his native town to the General Assem-

bly of Rhode-Island, of which he was made speaker. He belonged to the congress of 1754, which met at Albany. Soon after this period, he was elected chief magistrate of his native state, when the revolutionary difficulties were thickening; and long before they broke out, he took up his pen and wrote against the oppressive measures of the British government. Quaker, as he is represented in the picture of the Declaration of Independence, he had spirit enough to fight, when his country's honor required it. If he never actually drew his sword in the field, he raised a company in 1758, and would have marched to the frontiers, if occasion had required. Mr. Hopkins was in the first continental congress in 1774; he was there also in 1776, and affixed his name to the Declaration of Independence. He had been an elegant penman; but a paralysis gave a tremulousness to his hand, when he signed that instrument, yet his determination was fixed, and his mind never wavered. After leaving congress in 1778, he was frequently sent to the state legislature, not from any desire on his part, but because his fellow-citizens would have the benefit of his talents and integrity. Mr. Hopkins died on the 19th of July, 1785, in the 78th year of his age. He was not a learned man, but possessed a good sound judgment, with much taste, and considerable miscellaneous acquirements. He was truly benevolent; and it was said of him, that his head was sound, and his heart tender—that he would not wantonly tread upon a worm, nor would he suffer himself to be trampled upon by a king.

Francis Hopkinson was a native of Pennsylvania, and born in 1737. His father was a philosopher; he was held in high estimation by the scientific of the day, and particularly Benjamin Franklin, with whom from the similarity of their studies, he was on terms of intimate friendship. Young Hopkinson entered into the study of the law, and became distinguished in his profession. He was also a poet and a wit. He was noted by the British government, and appointed to office by them; but he sacrificed all to take up the cause of freedom in his country. In 1776 he was in congress, and signed the Declaration of Independence. He was also a judge, and a good one. Washington considered him a great and good man; and all who acted with him, had the highest respect for his memory. He died in May, 1790, in the 53d year of his age. He will go down to posterity with the patriots and poets of our country.

Samuel Huntington was born at Windham, in the state of Connecticut, on the 2d July, 1730. He descended from an old Connecticut stock, men of sound sense and good lives. He had only a common school education, and hardly that. He was, in fact, a self-taught man; making himself, by his own industry, a good lawyer without serving any time in office, and rose to be King's Attorney, the duties of which he discharged with ability. He was next raised to the bench of the Supreme Court of Connecticut. In 1775, he was chosen as a representative in Congress from that state, and had the honor of affixing his name to the Declaration of Independence. He served, at different periods, for several years in Congress; and when not in that body, he filled some important station at home, being Chief Justice at one time, Lieutenant Governor at another, and in 1786, was elected Governor. He died on the 5th of January, 1796, in the 64th year of his age.

Michael Hodge was born at Newburyport, on the Merrimack, in the year 1780. He was educated at Cambridge college. He was a man of genius and letters, whose acquirements were extensive, various and useful, but whose capacity was greater than his attainments, and whose talents were more conspicuous than his knowledge. The distinguishing traits of his mind were quick perception, lucid arrangement, forcible illustration, and accurate taste. He always met a subject with powers to manage and control it to his wishes; and such was the application of his taste, that its roughness was made smooth, and its harshness done away—and what was effort to others, seemed common exertion to him. The "*Mens Divinior*" of genius lighted his track through all the windings of ratiocination to satisfactory and convincing results. His was not the hammered and labored chain of reasoning, form

ed of ordinary and ponderous metals, but a string of gems of inestimable value and curious polish. His disposition was ardent, his feelings always acute, and sometimes fastidious; and, indeed, his whole temperament was too sanguine ever to know that equability that mediocrity so frequently enjoys. He passed through his college and professional studies at an early period of life, and began the practice of the law with high reputation and good prospects, and was soon known as a discriminating and successful advocate, who entered with ability and zeal into his client's cause. But notwithstanding his claims to superiority, he was never perfectly satisfied with the profession of the law;—for in his character was exhibited that moral enigma, which has so often perplexed the metaphysicians—great personal intrepidity united to a painful and shrinking modesty;—a fearfulness of all the forms of danger, to a diffidence in the discharge of professional duties.

The constitution of Hodge was from early life rather delicate, and after a few years of professional attention, seemed much impaired. Wealth and fame, sometimes the reward of honest labors and a virtuous ambition, in his profession, appeared at too great a distance, or too doubtful for one constituted like him; and he relinquished the law for mercantile and maratime pursuits. But after all his feelings, ill health was probably at the bottom of his impatience, and the real and only cause of his leaving the profession; for a few years more of practice might have taken off all that was irksome, and opened to him such views and hopes for distinction, as to have made his labor and duty pleasant. His love of literature still continued, and his occasional productions, as essays, orations or poetry, (for he sometimes sacrificed to the Muses) were always in the first class of good writings. His warmth of feeling, his rich, but chastened fancy, his critical acumen, and analytical powers, gave such ductility to his thoughts, and such harmony and sweetness to his language, that the charm which attracts and detains you, which taste delights in, and the understanding approves, which is found in the pages of Addison and Jones, was peculiarly characteristic of his pen. For several years he has suffered much from an irritable and wasting disease, yet his spirits remained unconquerable, and his energy undiminished;—he persevered in activity until action with him was over forever.

So much, and such varied talent, delicacy of taste, such unwearied and vigorous habits of business, such sensitive and admirable tact for every thing he engaged in, and such heroic and high-tempered daring, such hardihood in suffering, as was combined in the character of Hodge, is rarely found united in any one.

Such a man, so full of soul, enterprise and labor, to have lasted long, must have had an iron frame —but his was not commonly robust, and he is gone, at the premature age of thirty-six.

Before he relinquished his professional pursuits, and when he knew the old world only through the medium of books, he often made comparisons unfavorable to his own country. He saw European society through the medium of a few great men, and formed his opinion of their knowledge by reading their standard authors; distance also "lent enchantment to the view." How wise must that bench of justice be where Mansfield presided? and how eloquent and patriotic that senate where Burke and Fox harangued? How charming was that social circle in which Voltaire was crowned? and how lovely the muse that inspired Klopstock and Gesner? This in the common language of youthful genius enamored with what is great or elevated in the intellectual world. But after ten years acquaintance with the south and north, and in fact, with most parts of Europe, he became satisfied with the land of his birth. His was not a superficial knowledge of those things which make up national character and dignity, but being well qualified to judge, and bringing a mind rather prejudiced in favor of European nations, he weighed well the subject of their advantages and never afterwards repeated the wish that he had been born in some other country than America. He examined their courts of judicature, and was satisfied that if we had something yet to learn, that we had avoided much which it was better

not to know. If at home he had sometimes seen ignorant and feeble men raised by the suffrages of the populace to offices they did not deserve, abroad he had frequently witnessed the elevation of corrupt and ambitious minions of power. Here there is no royal hand stretched forth to feed the young eagle, to give him strength and courage to reach "his pride of place," but there is no aristocratic power to strike to the earth the young aspirant for fame. If we have but little of that lofty cultivation which produces and cherishes the great masters in poetry, painting, sculpture, and the philosophy of the mind, yet we can say that the light of our knowledge gleams on the humblest residences of man, and is sufficient to learn him his duty to himself and his neighbor. If a few of our high-gifted citizens have gone across the Atlantic for that patronage and support which could not be found here, myriads of European subjects, oppressed by landlords, avaricious tax-gatherers, and arbitrary governments at home, have emigrated to us and found comfort and freedom here, and grown rich and prosperous on our soil. We do not deny the fact, that some of the nations of Europe have permanent orders of men, hereditary opulence, and all the means and much of the disposition to accumulate knowledge and to dispense a generous patronage to those who labor for intellectual glory. England, in particular, who has stretched her power through every land, has equally extended her patronage. It would be idle to deny that by her fostering hand, genius is more certainly developed, and its exertions better secured than with us. This is but part of the question; there are other views of it of superior importance. Is there a nation on earth that enjoys the necessaries of life, its conveniences and comforts in the full measure that we do? Where can be found so much civil, political, and religious liberty as we possess? If our literary and scientific information is not so concentrated and preeminent as theirs, and if we cannot number so many beacon lights on our intellectual heights; yet we can say, without the hazard of dispute, that there is a more general diffusion of elementary information among us than in any other country. We have no starving rabble such as is found in every city in Europe, which constantly disturbs their peace, and frequently threatens the destruction of civil government.

But after all the comments on both sides, perhaps there can be no standard to judge of the amount of happiness enjoyed by any people. The blessings of nature and providence are more equally apportioned, than we imagine them to be. Some place the value of life in one thing—some in another. Who knows enough of human nature, to say that the Arab—the poetical wanderer of the deserts, who beguiles the night by tales of wonder, and revels in the magic creation which his own prolific fancy has spoke into existence, is not as happy as the peasant of the hills of Switzerland, who never left the cliffs on which he was born? Some nations may rust out in peace, or waste their strength in pageantry and the refinements of indolence and pride, while others are broken down by exhausting wars—who shall say which is the happiest of the two? Different dispositions would frame a different answer. One thing is certain, at all times—that pitiful insults will always produce bitter recriminations, and that prejudice has her long train of ills between nations, as well as individuals. A literary contest on a national scale is worse than one of arms, for it is likely to last longer, and to do more mischief. These animosities arise from self-importance, and narrow views of great principles, and they grow warmer and more hateful as they continue, while the strife of battle begets generous sentiments; and the adversary who bravely falls, is often sincerely lamented. Our prayer is for a millenium in the literary world. Philosophy teaches the creed, and christianity sanctions it, that one nation has but little superiority over another, that all the children of men are sons and daughters of God, and the peculiar care of Heaven.

Stephen Hooper was born at Newburyport, on the 8th of April, 1785. His father was a merchant of distinction, previous to the revolution, but he had met with a series of losses, at the peace of 1783, and soon after the birth of this son, retired from

business, on a farm in the neighboring town. He was a man of liberal education, of kind and amiable deportment, and fondly attached to his children. The mother of the subject of this sketch, was a woman of fine intellectual capacity, with all the acquirements of the age in which she was educated. Stephen Hooper was the youngest child of a doating father, and the only one of his mother. On this youngest son, his father bestowed much of his love; for when the heart is softened by misfortune, it holds with a convulsive grasp the objects of affection, and seems to ask at every pulsation, are these ties also to be broken? The bosom of a family so situated, was well calculated to call forth the kindly dispositions of nature towards one another, but certainly not the best school to instruct one how to encounter the storms of life. With a sickly constitution from his birth, Hooper was nursed and dandled into more than natural feebleness, and his want of corporeal vigor, was an excuse for keeping him at home, until he was sixteen or seventeen years of age. About this time his father died, and he was under the necessity of thinking more for himself; but his mother then held him as the aggregate of all her regard for the world, and would not suffer him to be away from her for any length of time. He was, therefore, sent to Dummer Academy, in the neighborhood, to prepare for Harvard University. The Rev. Mr. Smith was then the principal of that institution. He was full of gentleness, a critical scholar, and a fit person to bring forward one so tenderly bred. Hooper entered college in 1804, and supported a reputation for industry and talents, amongst the first of his class; but he never became familiar with many of his fellow-students, and in some measure neglected a good opportunity to study the science of human nature. In college, the traits of character unfold themselves—vanity and ambition begin then to display themselves, and appear more naked and undisguised, than at any after period of life.

On leaving Cambridge, he began the study of the law at Newburyport, and in a short time, while yet a student, was returned a representative from Newbury, and of course came into the legislature with the most gratified, buoyant, and lofty feelings; as his case was a rare instance of the early distinction, and a proof of the confidence of the people in his abilities. The political hopes of his father's friends were fully realized by the figure he made in that body. It was a day of political excitement, and the fullest opportunity was offered for a display of his talents as an orator. The effect of his powers on the house, was wonderful. His delicate and blooming complexion gave him a very youthful appearance, and people thought him much younger than he was. His voice was strong and full toned, his language chosen and classical, and his style flowing and majestic. There was a zeal and warmth in his manner, which formed a striking contrast to the business speaker of a deliberative assembly. The scope afforded him was large—for he was then in the minority, and not answerable for political measures. To attack, retort, and reply, the only course for the minority to pursue, opens a fine field for *argument*, *wit*, and *sarcasm*, which the cautious majority do not like so well to enter, for they have much to lose and nothing to gain by it. He had acquired so much reputation in debate, that he was unwilling to labor in the committee room, and shunned as often as he could, that useful drudgery. He did not then know that this was, of all others, the best school for the young politician. When the times changed, and he was with the majority, he took less interest in the business of the house, but at times was splendid and attractive in debate. In the year 1816, he came into the senate of this Commonwealth, from the district of Essex, and was considered as a conspicuous member. At one session, he was chairman of the committee to answer his excellency's speech, and drafted one conspicuous for its point and delicacy—but during his time as a member of the senate, there was nothing of political importance to call forth his talents as a speaker.

Mr. Hooper was called to the bar in the year 1811, and opened his office in Newburyport. He had studied the elementary principles of his profession with considerable zeal, but had paid little attention to its techni-

calities or its practice, which are so essentially necessary to ensure success in the law. His ambition was to be distinguished as an advocate, and the great models were forever in his memory. At his entrance into the profession, his prospects were in his own mind, sure and bright. Confiding clients, important cases and fortunate results, filled his imagination. He had asked himself, for what am I fitted by talent, disposition, and acquirements? and the answer his own judgment made was, the law. But he had seen the world only in a great panorama, painted by his own fancy, and placed in a light of his own choice, and it was therefore, full of sunshine and happiness. Warriors were there with immortal wreaths; but the dust and blood through which they passed to gain them, were not seen. Then, statesmen seemed to come without effort, into high offices, and orators spoke by the inspiration of genius alone—The midnight lamp by which they had gathered their stores of learning, was placed behind some screen. If a shadow passed over his picture, it was instantly chased away by his lofty spirit, in scorning to fear any thing in the pathway of his glory.

Term after term, however, went on, without any cause of magnitude falling in his way; while others, just commencing practice, paraded with green bags, writs, and all the show of business and professional consequence. If the thought came over him to inquire the reason why men of business did not call upon him for counsel; or did a friend suggest that his manners were not sufficiently familiar to allure clients to his office, and to seek him for advice—or that those who had small business, did not wish to trouble him with it, and those who had questions of magnitude to settle, wanted the benefit of experience; these intimations were disregarded, from a belief that it was impossible they could be true. All difficulties and prejudice he thought would soon vanish, and he should then be paid for the mortification of delay. He did not see all the evils he had to encounter. Some of them he thoughtlessly made for himself. He hated dulness, and frequently, with perfect good nature, made a Dunciad, for the moment, and playfully honored some of the minor limbs of the law with the sorry preeminence of Cibber; but dulness is often capable of deep revenge. It requires but little wit to sneer at superior claims, and not much sagacity to circulate the tale of envy, and the whisper of detraction.

There is no greater error, and no one more common to brilliant minds, than the belief that much is to be done at the bar, by the power of persuasion. The possession of eloquence, though rare, is sometimes even detrimental to the progress of the young aspirant, in a court of justice—for he is apt to rely on his splendid gift, to the neglect of that cautious and painful examination of facts and principles, so indispensably necessary in the management of a cause; and he frequently finds that the humble have crept to success, when he soared only to fail. The eagle who spreads his wings in open day, is less sure of his prey, and is more easily wounded by the marksman, than the wily fox, who lurks in the covert, and gains his ends by stratagem.

For a long time previous, and for several years after Mr. Hooper began business, his mother was a valetudinarian and a recluse; but this only increased his affectionate attentions to her. When at home, he read to her several hours each day, in her chamber, brought her all the passing events, and made it his unceasing care to cherish and console her. This act of filial duty, is lovely and pleasant to contemplate; but it was a misfortune to be so situated—for the discharge of this affectionate duty had no good effect on a disposition like his. This fond parent, in return for this kindness, and to relieve her own feelings, entertained her child with a lamentation on the decay of good manners, and a dissertation on the splendor of former times. All which served to nourish his pride and misguide his opinions. At her death, he was under the necessity of examining his affairs, and to his astonishment he found, what he had considered a valuable property, so incumbered, as to be worth but little. The difficulties which then surrounded him, produced a pretty thorough investigation of his prospects in his profession. He no sooner began to

reason, than he clearly saw his mistakes, and with a promptitude which belongs only to high minds, he determined on a change. The illusions had vanished, and the world seemed to him a sterile promontory. The power of genius was no longer his topic—but action, energy, and perseverance, were his themes. He was alarmed and distressed at his fate, but not overwhelmed. He had erred, but not sinned; the dream had fled, but his senses were whole. It was time to look out for a new theatre of action, as well as to pursue a new course of thought; and as soon as possible, he came to Boston and opened his office, with a determination to do any thing in his profession which was fair and honorable, to earn his bread and to make his way to distinction. The attempt, though attended with many mortifications to a spirit like his, would have succeeded, if his health had been good, and his life had been spared. He was constantly in his office, ready to undertake matter of business as a magistrate, attorney, or counsel; and at the same time, he took great pains to retrieve his early neglect of the forms of practice.

The powers of his mind were of a high order, but the most distinguished properties of it, were imagination and memory. His perceptions were quick, and his combinations sudden and happy. If his judgment was not so cool and deliberate as that of men of less talent, who come to results by a painful and slow process of reasoning, yet it was generally well made up, and always supported by great ingenuity. There were also excellent ingredients in his opinions —a perfect honesty and a manly freedom.

His conversational powers were admirable. He often indulged in sportive and elegant irony, which sometimes, to the delighted observer, seemed to savor of acrimony; and though it had a little bitterness in manner, there was nothing of malice or envy in it. The conversation of a scholar, who has extracted sweets from every flower of every garden, in every age and clime, is an intellectual feast, which, justly to value, must be often enjoyed. Mr. Hooper engaged in no amusements common to young gentlemen, but sought his friends after the labors of the day with a mind "rich with the spoils of time," and he poured them out with imperial munificence, as he knew that his treasury was inexhaustible. It was not alone what he had read, they were regaled with, but his own prolific fancy had arranged and given life and beauty to all he had gathered for use and conversation. *The purple light of youth* never failed to gild his thoughts, until he was no more; for it sunk away only as he passed from one world to another, as the fading tints of the bow on the rain-drops, at the setting sun.

Mr. Hooper's acquirements were far above those of men in general, who have had the same means for improvement. His knowledge of the classics, was extensive, and his taste in them, unquestionable; but the great amount of his acquirements, was in English literature. With the works of the great scholars, from the days of Elizabeth until this time, he was, in general, well acquainted. He had read most of the poetry; and *all* the parliamentary speeches on record, were in his memory—no matter in what age delivered, he had made them his own; also the countless periodical works were familiar to him. He was much delighted with ethical writers, and frequently dipped into the labor of some sturdy polemic. Divinity was a study he loved to pursue, and was very well read in the scriptures, and the commentators upon them. There is always something of a deep and solemn cast in the religious speculations of men of genius, whose minds are pure, and who are in pursuit of truth. They generally take the gospel of Jesus Christ in that simple and interesting form of interpretation, at which cold philosophers are inclined to smile. The chilly rays of reason shine without any of the warmth of hope upon the grave; and they send a feeling to the pious soul, resembling the exhalations of the low and swampy grounds, to the benighted traveller. He who believes, may wander; but he who doubts, and cherishes those doubts, is forever bewildered and "tempest tossed;" and in the end trusts to accident for safety.

As an orator Mr. Hooper had no common gifts. His voice, if not one

of the best for sweetness, was not only forcible, but strong, and capable of considerable variety. His language was well adapted to his subject; if there was any fault, it was too much precision and nicety for his audience, and often would have been better for the printed page, than for the *forum*. His elocution took a lofty character, from his constant study of ancient and modern tragedy, in which is found every master passion. The gay and playful remarks of comedy, were ever ready on his tongue. This reading, alone, forms a wonderful field for the study of the higher branches of the knowledge of human nature, but is an unsafe guide, without some acquaintance with the humble springs of human action. There is a knowledge of human nature which cannot be learned from books, however profound. It must come from associating with children, while we are yet children—from being acquainted with youth, while we are yet young—and in middle age, with every class and degree of men. This knowledge is culled from an acquaintance with all ages, and all circumstances and dispositions of men, but cannot be attained by the closest study of what others have done. Who ever swam the Hellespont by reading the story of Leander's fate; or Byron's successful exertions in tempting to buffet the "*seas, gods wept?*" Human nature to be properly understood, must be examined in the sunshine and the storm—on the mountain and in the vale—in the city and the wild—amongst wealth and poverty; in fine, in all the relations of life. This is a science which no man understands perfectly, and one in which, perhaps, no one thinks himself deficient.

Many of Mr. Hooper's early acquaintance have suggested that his mind was rather "filled with the thoughts of other men," than stored with observations of his own; but every man of extensive reading, whose memory is fresh, will appear so to most of the world. It is in a well stocked mind extremely difficult to separate that gathered from others from that produced by ourselves; and sometimes, a free use of the thoughts of others, is taken for sterility in the user; but this is often an incorrect opinion. That which is called originality, is generally, nothing but eccentricity, which is seldom found in well balanced intellects. To think *strangely*, is almost always to think *wrongly*. He made no affectation of singularity in his literature, politics, or religion. In the moral world, as in the natural, there should be some fixed principles—some meridian lines, and polar stars for guides; a great man will find a necessity for them, and will use them. Nature produces an endless variety, but her laws are permanent. The same land remains, and the same oceans flow around it—The same sun continues his journey of ages—and the same moon "repeats the story of her birth;" yet every rood of land—every wave of the sea—and every hour of time, proves the existence of perpetual variety. Originality is not that which is obtained by doing violence to general laws, but springs like the produce of the season, in regular beauty.

Joseph Hovey was born in Boxford, in the county of Essex, in the year 1775. His family had been of note in that town, from its earliest settlement. The father of Joseph was a respectable yeoman, but not affluent; he had a large family to support, which he brought up in competency and respectability. Several of his sons were instructed in some good mechanical trade; Joseph was taught that of a clock and watch maker, but as he was from his boyish days very fond of reading, he acquired a taste for classical knowledge, and the first use that he made of his freedom from parental authority, at the age of twenty-one, was to set about devising some means to obtain a liberal education. His reputation for good habits and intelligence induced several who knew him to favor his plan of going to college. After pursuing his studies for some time with the minister of the parish, he went to that excellent institution in Andover, Phillips' Academy. Mark Newman, Esq. was then principal of that seminary. This instructer had discernment, talents and fine affections, was friendly, kind and attentive to Hovey, and treated him with great delicacy; neglecting nothing in his power to make Hovey's situation as pleasant as possible. But it requires much courage to per-

severe in a course of studies for a profession, at so late a period of life. The student of advanced years sees children before him in acquirements, and he feels himself thrown back as it were, upon time, and himself a mere boy, while he feels nothing of that unthinking gaiety of youth, which makes existence itself a bliss, but has to suffer all the anxieties of manhood. He finds that while he has the greatest desire of obtaining knowledge, it is difficult to fix his attention on books, for a thousand thoughts of the world obtrude themselves to disturb him. He is dissatisfied with his own progress in learning, because those who are younger advance more rapidly than he does. He takes sprightliness, forwardness and youthful ductility for genius and extraordinary maturity of judgment, he weighs himself unjustly in the balance, and thinks that he is wanting in talents, because he is less buoyant and flexible than younger scholars. His thirst for knowledge is sometimes almost quenched by looking forward and measuring the length of his toilsome march. In viewing the distance between himself and usefulness, he holds the inverted telescope to his eye, and apparently the object to be obtained is diminished. Often in a desponding mood, he mistakes the fatigues of body and mind for mental imbecility; and if the eternal principle of self-consideration and esteem did not survive to keep him from despair, insanity would be the consequence.

From all this Hovey suffered as much as man could suffer, but he calmly persevered, and made fair progress in his pursuit, gaining and securing friends every day. In the year 1800 he entered Harvard University, and while there his virtues, his habits and attainments gained for him the respect and confidence of all who knew him; they however were but few, for he was retired and modest, and so easily confused by severity and impudence, that it was difficult to understand his character, or to make a just estimate of his acquirements.

After leaving college, he taught a school for a year or more, and then entered the office of John Abbott, Esq. a respectable lawyer of Westford, in the county of Middlesex, but soon removed to Haverhill, in the county of Essex, and pursued his course of legal studies with the Hon. John Varnum of that place, until he was admitted to the bar in that county, at the September term, 1808.—Here he opened his office and began his professional life. He was peculiarly fortunate in fixing on this place for his residence as a student, for Mr Varnum was not only his legal counsellor and friend, but his liberal creditor. He furnished Hovey with means of subsistence, in so delicate and kind a manner that every one who saw them together, and did not know their relations to each other, might imagine that the one who bestowed was the one obliged. In fact, this beautiful village was the place of all others the best suited to such a mind. The society there is not large, but genteel and delightful, full of sociability and intelligence. The best people there are refined and affectionate, easy and communicative, and are always unwilling to see shut out of their circle, any one in their neighborhood, who can add any thing to its life or respectability. In that place there are too many well-bred persons to permit a narrow, exclusive and selfish spirit to take possession of them, and too few to form a fashionable coterie, in which pride, heartlessness, and neglect of merit grows amidst the splendor which encircles it. They perfectly understood Hovey's virtues and failings; they cherished the former and forgot the latter, and with them he enjoyed as much as was in his nature, disposition and habits to enjoy.

As a classical scholar, Hovey's acquirements were very respectable. In Latin and Greek his knowledge was correct. With mathematics and metaphysics he had rather more acquaintance, than men of his advantages generally possess, and he always discovered a fondness for works which required the exercise of the mind. I never knew him leave a book because it was difficult to be understood. His chief delight was in works of eloquence, poetry and able essays; with them he was well acquainted, and he quoted with readiness from the refined productions of the Augustan age, and more particularly from those of the age immediately preceding Augustus. The bursts

of eloquence and patriotism from Chatham, and the elaborate and splendid reasonings of Burke, were all in his memory. What Fox, Pitt, Hamilton and Adams had written and spoken, had often been read and admired by him. But the more he read and the better he understood these productions, the less he seemed qualified to speak himself. He felt that with every struggle for eminence he must fall far behind such men, and therefore he would not make the attempt, forgetting that even these great men had to learn, and made every exertion to improve. The sight of an audience withered all his faculties, and dried his brain. An audience was to him a monster, that made his tongue cleave to the roof of his mouth, and in an instant put his imagination into bondage. This diffidence did not particularly arise from respect to his audience, for he had perhaps less regard for public opinion than most men, nor did he think meanly of his own abilities; but whatever may have been the cause, he was spell-bound the moment a number of hearers were collected. He loved poetry, and discovered much taste and discrimination in his criticisms on the works of ancient and modern poets; the plaintive and elegiac he preferred to the sprightly and flowing.

Sometimes he felt the influence of the muses, and produced verses of considerable merit, which were always chaste and delicate, but wanting in force and passion. But this amusement he did not pursue with much industry, for his judgment was so much superior to his inspiration, that he pruned, altered and refined his verses, until they were weak and tame, and he was perfectly dissatisfied with them. In music he was an amateur, and played the flute with some science, and I believe found more consolation from this amusement than from any other; for when he was fretful and moody, his flute and a little harpsichord were frequently used "to charm away the fiends," and they seldom failed of success.

He dwelt long upon the various denominations of the Christian religion, without making up his mind which was the best. This mode of worship was wrong, because it wanted refinement, and was loved by the vulgar, and that because it was preferred by the aristocratic and wealthy. This had too much laxity in it; that too much bigotry. Of some creeds he admired parts, and disliked other parts, and therefore was constantly balancing between them. But it is not insinuated, that he ever wavered in his faith in the Christian religion. At length he finally settled in the full belief that the Episcopalian form of worship was right, and having adopted it, he continued steadfast in it to the last.

Although many of his views of society were wrong, yet his observations on characters were generally shrewd, learned and novel, frequently a little tinctured with the corrosive and sickly impressions incident to chafed spirits. It could not be expected, that one who had suffered so much, could be entirely impartial or magnanimous in his opinions. If his remarks were sometimes bitter, he had no permanent malice in his nature. His sarcasms were only the feverish breath of the moment, and passed away like the vapours of the morning.

From this delineation it will be readily conjectured that he could not do much as a lawyer. He had read with diligence, and was very well acquainted with first principles, but he had no readiness in practice; for he hesitated, reflected and doubted, until his client lost all confidence in his knowledge: yet he was, in truth, a safe counsellor, for he had nothing of the boldness of ignorance, that rashly commences and trusts to accident for ultimate success. Had he acted as well as he reasoned, he would have had much to do, and would seldom have failed in obtaining applause for his talents and correctness of practice. A timid man is apt to communicate his timidity to others, and the bold and presumptuous are not fond of those so little like themselves; they can more easily find excuses for ignorant rashness, that leads to error and failure, than for that timidity and hesitation, that dares risk nothing. The diffident and delicate in the profession of the law have much to suffer. Iron nerves and an undaunted spirit, are as necessary to make a successful lawyer, as knowledge and industry; and al-

must be combined in the advocate. Hovey was the most rapturous admirer of intrepidity in a lawyer. He would frequently dwell with delight upon the hardihood of Thurlow and Erskine, but could not in any degree imitate their courage and confidence. Before a justice of the peace he could hardly make a speech of ten minutes in length, however necessary it might be in his business.

His feelings, which were always acute, frequently grew morbid in brooding over the evils he had to bear, or thought he had to bear. A man of taste and refinement, of quick sympathies, and prolific imagination; he of course was a friend and admirer of the fair, but he never had any partiality for a particular lady, without conjuring up a host of rivals to destroy his hopes. It was not in his disposition to enjoy even a dream of love without the nightmare of jealousy. His fancy was forever at work, creating bowers of bliss, but between every osier that he entwined, a satyr threw his hideous glance to disturb the sacred seclusion, and a serpent lurked among the flowers that he strewed around his paradise, to wound the tender foot of the lover with his sting. He was fond of amusement, and was willing to exert himself to promote it; but in the midst of the banquet, he frequently saw a death's head on the table, and if a beauty floated down the dance with uncommon grace, instantly to his eye a spectre followed, exhibiting every emblem of uncertainty, dissolution, corruption, and all the horrors of the grave, and he would gaze on the "unreal mockery" he had called up, with intensity and fondness. He was not agitated at their appearance, for he knew that his evil genius had created them, and that they were laid at his will.

He did not fear to die, nor did he set much value on life, but he wished to live long, and would frequently calculate his chance for old age, but in this wish he was happily disappointed.

In person he was tall, thin and pale, and was singularly abstemious, fearing that he should grow plethoric by indulgence, while he was wasting away in a settled consumption.

Early in the spring of 1815, his friends were convinced that he could not live long, and he was informed of this opinion, but he did not think his case alarming, until he was scarcely able to walk; but when the certainty of a speedy dissolution was impressed upon his mind, he was not in the slightest degree disturbed, but seemed another being. All the soreness left his heart, all the wounds of his pride were healed. The diseases of the disposition and the fancy, all that ever rankled in his bosom, or embittered his reflections, passed away and left not a trace behind. A pure serenity of soul—a high and holy feeling, full of philanthropy and devotion, beamed from his sunken eye, and spoke in every aspiration. At this moment all his enmities were forgotten, all his injuries forgiven, and all his friendships glowed with new life. As the hand of death pressed harder upon his brow, hope and joy beamed brighter in his countenance. This illumination was a religious ecstacy, unmingled with regret and undisturbed with doubts or fears. The way to happiness was not covered with clouds or darkness. The tract that the gospel had revealed was brighter than noon-day. The dream of the patriarch was realized in his waking visions, for the Saviour of men had let down the ladder from heaven to earth, and angels ascended and descended to waft his prayers and bring him consolation. Philosophy may produce insensibility or hardihood, but religion alone can take away the sting from death and the victory from the grave.

He died in the summer of 1815, and lies buried in the parish graveyard of his native town.

"Hard is the scholar's lot, condemned to sail,
Unpatronised o'er life's tempestuous wave;
Clouds blind his sight, nor blows a friendly gale,
To waft him to one port—except the grave."

EDWARD AUGUSTUS HOLYOKE, M.D. a physician of Salem, son of President Holyoke, of Harvard college, was born in Marblehead, August 13, 1728, graduated at Harvard college in 1746, and died at Salem, March 30, 1829, aged 100 years and over. He was born at the close of the first century from the settlement of Salem. He was married the first time in 1755, to a daughter of Benjamin Pickman, Esquire, a merchant of distinction in Salem, but he had no offspring by this marriage. She died early, and he married again in 1759

By his second wife he had twelve children; but two daughters only survived him. He practised in his profession for seventy-nine years. He probably attended professionally at the birth of more persons than any man that ever lived, or perhaps that ever will. He was temperate, calm, cheerful, but assiduous in his business, never suffering himself to be disturbed by any passing event. When he arrived at the age of a hundred years, the medical faculty of Boston and Salem gave him a dinner. The patriarch entered the saloon previous to the dinner hour as cheerful and sprightly as one who had seen but few years, and no misfortunes. He took all the guests cordially by the hand and spoke of passing events as if his mind was as fresh and vigorous as at forty. After dinner he smoked his pipe with his friends, and amused them with medical anecdotes, of ages before they were born. The whole company were stretching after tales of other times and repeated those their grand-sires had told them, to be in keeping with the tone of conversation around the board. At the age of ninety, the writer has seen him tripping through the streets of Salem, on a cold day, without an over-coat, in small clothes and stockings and shoes, for he seldom wore boots; the first pair of this article he had, lasted him thirty-six years, being worn only in deep snows before the paths were broken. A memoir of his life has been written, but it is only a bald chronicle of a life of fewer incidents than any one that was ever so greatly protracted. We have given a sketch of him in another place, which we shall introduce in this.

"One other memorable name I must here mention: the patriarch of physicians of the present age, Dr. Holyoke, has just gone down to the tomb, having numbered among men more than an hundred years. He lived in an eventful period, for during his time, the various branches of his profession had advanced more than for twenty preceeding centuries; and yet, it may be said, that he not only knew what had previously been taught, but had kept up with the progress of knowledge to the last year of his life. I first knew him when he was near eighty, healthy and intellectual, and anxious to be possessed of all that was going on in the literary and scientific world, as well as of all matters in his own profession. He acquired information with great ease; for besides a natural quickness of perception, he had a thorough early education; for being the son of a literary man, he was made a scholar from the cradle; was graduated from college early in life, and commenced his professional career while in his minority. He made it, for many years, a practice to read some portion of the classics daily; but his mind was rather mathematical, inquisitive, and philosophical, than creative or tasteful; not that he was deficient in imagination or taste, but these properties of the mind were not his distinguishing characteristics.

His moral and social habits were commendable and attractive; for a pure philanthropy was seen running through the whole course of his conduct. His disposition was bland and fraternal; and like most true philosophers, he loved to find himself surrounded by young, vigorous, fruitful minds; and in the early times when custom had established an awful distance between master and pupil, he drew his so near him by the chords of affection, that he had no difficulty in ascertaining the number of their talents, and the weight of their arguments. He was singular perhaps in making Euclid a part of their professional studies; but he examined them as often in this work as in Hippocrates; and it was a maxim with him, which he constantly gave to his pupils, *never lose sight of ancient philosophy in modern improvements;* yet he rejoiced in all the lights that were bursting in upon the profession of medicine and surgery; and he was not far behind the reformers themselves, in adopting whatever was found salutary by a well tried practice; and he was an admirable judge of what was good, for he brought an honest and serene mind to bear upon every subject of discussion. He was not satisfied with brilliant theories unassisted by wen tested facts, properly authenticated by careful and intelligent men, competent in every respect to decide a case upon professional and philosophical principles.

He never sought honors or distinc-

tions, and never meddled with politicks any farther than to show his patriotism, and his willingness to trust his fortune and freedom with others of his choice. A deep sense of duty sometimes brought him out; for there were some situations he could not refuse—such as that of president of the American Academy; and also that of president of the Massachusetts Medical Society, when it was first organized; but the greatest portion of his time was devoted to his professional duties. His publications were not numerous, but were of a very high character for a careful arrangement of facts, and a pure induction of principles.

Such a protracted life as Dr. Holyoke's—a union of a sound mind with a healthy body, is seldom enjoyed by man in the present age. Indeed, it has rarely happened that any seer, or sage, at any period of time since the days of the primitive patriarchs, has been permitted to look on, or mingle in the affairs of men, active and strong, for more than thirty years beyond the three score and ten —that boundary in the revised code of nature. It is pleasant, however, now and then, to contemplate the course of such a favored being,—a philosopher, philanthropist, and christian, who had reasoned so much, and felt and acted so long; one whose disciples of every age, from decrepitude to youth, were around him; from those who had thrown the lancet and the bolus aside, to young aspirants for Esculapian honors, in whose trembling hands these emblems of art and science were yet unused. To exhibit such a character fully is difficult, if not impossible; there seems to be nothing in the common pathway of our experience for illustration; nothing to liken him to; we turn necessarily to the muses for aid, and adopting the language of the Persian poet, say, that such a man resembles *the god of day lingering long in the western skies to catch the incense and to receive the homage of the flowers as they gratefully turn to him in his decline; flowers which his warmer rays had awakened to life and beauty;* or to soar to higher similitudes in the regions of inspiration and prophesy, a hale, virtuous, intellectual man of a hundred years old, communing with heaven and dispensing wisdom on earth, who seems to have the power and favor of the God of Israel, vouchsafed to him, to stay the course of time, and to say, "*Sun, stand thou still upon Gibeon; and thou, moon, in the valley of Ajalon,*" *until reason, religion and philosophy, have avenged themselves on their enemies.*"

Thomas Jefferson was born on the 13th day of April, 1743, at Shadwell, in Albemarle county, not far from the seat where he died. He was educated at William and Mary's college, and graduated with distinction, when quite young. He was a great lover of learning and particularly of natural philosophy. With the celebrated George Wythe, he commenced the study of the law, and became a favorite pupil. Mr. Jefferson was never distinguished as an advocate, but was considered as a good lawyer. Soon after he came to the bar, he was elected a member of the house of Burgesses, and in that body was duly appreciated for his learning and aptitude for business. He at once took fire at British oppression; and in 1774, he employed his pen in discussing the whole course of the British ministry. The work was admired, and made a text-book by his countrymen. In June, 1775, he took his seat in the Continental Congress, from Virginia. In this body he soon became conspicuous, and was considered a firm friend to American liberty. In 1776, he was chosen chairman of the committee that drafted the Declaration of Independence. This instrument is nearly all his own and was sanctioned by his coadjutors with few alterations. In 1778, Mr. Jefferson was appointed ambassador to France, to form a treaty with that government, but ill health prevented his accepting of this office. He succeeded Patrick Henry, in 1779, as Governor of Virginia, and continued in that station two years. In 1781, he composed his notes on Virginia. In 1783, he was sent to France, to join the ministers of our country, Mr. Adams and Dr. Franklin. He joined them in August of that year. In 1785, he succeeded Dr. Franklin as ambassador, and continued performing the duties of that office, two years, when he retired and returned home. In 1789, he was made Secretary of State, under

Washington, in which situation he was highly distinguished for his talents. This station he resigned in 1793, and retired to private life. In 1797, he was elected Vice-President of the United States, and took his seat as President of the Senate, on the following 4th of March. In 1801, he was elected President of the United States, which office he held for eight years. After completing this term, he retired to private life, in which he spent his days in philosophical pursuits, until the 4th of July, 1826, when he expired, just fifty years after penning the Declaration of Independence. His course was one of his own. Never lived there a politician, who did more than Thomas Jefferson to bring his fellow-citizens to his own opinions. Time will settle the amount of his merits. They were considerable; but of the course of his policy, his countrymen have had, and for a long time will have different opinions.

John Jones, was a native of the state of New-York. He was born in the town of Jamaica, Long-Island, in the year 1729; and received his education partly from his excellent parents, but chiefly at a private school in the city of New-York. He was early led, both by the advice of his father and his own inclination, to the study of medicine, and was placed under the care of the late Dr. Thomas Cadwalader, of Philadelphia, with whom he continued during the period of his studies in this country.

At the age of eighteen years, he began to study medicine under the above-mentioned physician, and he always acknowledged, with pleasure and gratitude, the important instructions, both in physic and morals, which he derived during the prosecution of his studies with that amiable man. This country then afforded scarcely any opportunity by means of public institutions, for increasing the knowledge of the student; as none of those numerous establishments for the relief of the indigent sick then existed, which now do honour to a young, but enlightened country. The private practice of physicians, was almost the only source from whence the student could derive any practical information; and to this Dr. Jones paid the greatest attention.

After completing his studies in this country, young Jones visited Europe, in order to improve himself still further in his profession. He first went to London, and there attended the lectures of the celebrated Hunter, M'Kenzie, and others, who then shone eminent in the several branches which they taught; and the practice of the different hospitals, particularly that of St. Bartholomew, of which Mr. Pott was senior surgeon, and in the height of reputation. From London he went to France, where he arrived in May, 1751; and obtained the degree of doctor in medicine, from the university of Rheims: he then proceeded to Paris, where he remained until the month of April in the following year; and attended the anatomical lectures of Mr. Petit, and the practice of the Hotel Dieu, of which well known institution, Messrs. Le Cat, and Le Dran, were then surgeons. He afterwards spent some time at the university of Leyden, and finally visited Edinburgh, which completed his medical tour.

Under masters like these, and enjoying such opportunities, he could not fail, with the assiduity which he employed, of acquiring all the knowledge at that time to be obtained: in consequence of the zeal which he showed in the acquisition of every species of useful knowledge, he attracted the notice of the above celebrated surgeons, which was of essential benefit to him, in the prosecution of his studies: to Mr. Pott, in particular, he considered himself under peculiar obligations, for the marks of friendship he experienced from him, and which could not fail to inspire him with a love of his profession.

During the prosecution of his studies in Europe, Dr. Jones was industrious in collecting all the useful information in his power, especially upon those branches of science more immediately connected with his profession. To anatomy, as the hand-maid of surgery, and the basis of medical science, he paid the greatest attention, but he did not suffer this to engross the whole of his time: convinced of the intimate connection between the different branches of the profession, he considered the separation of them.

not only as contrary to nature, but as highly detrimental to the progress of the science; and therefore believed, that a knowledge of one part was indispensably requisite to a right understanding of the other.

Upon the return of Dr. Jones to this country, he settled in New-York; where his abilities soon procured him extensive practice. To the profession of surgery, in particular, he devoted much attention: he was the first who performed the operation of lithotomy in that city, and succeeded so well in several cases that offered shortly after his return, that his fame, as an operator, became generally known, throughout the middle and eastern states of America. This operation had likewise been frequently attempted in the other states, but the want of success attending it was generally so great, as to prevent it from being performed in future; the fortunate manner, however, in which those cases under his care succeeded, fully proved, that it was no longer the dangerous operation many had been made to apprehend, and which induced them rather to submit to a miserable life, than to suffer the risk of falling a sacrifice to the means instituted for their relief.

About the year 1758, during the existence of a war between France and the then colonies, as a part of the British dominions, a considerable alarm was occasioned by the report of an intended attack of the enemy upon the frontiers of the state; and Dr. Jones, among others, entered as a volunteer surgeon to the troops raised upon the occasion, in which capacity he served with distinguished reputation, until the close of the campaign. It appears, that even the enemies of his country were acquainted with his abilities; for in a severe repulse which they suffered, from the American and British troops under Sir William Johnson, General D'Escaux, commander of the French, was dangerously wounded, and being taken prisoner, immediately placed himself under the care of Dr. Jones; who carefully attended him, for a considerable time, in New-York. At the close of the campaign, he returned to private practice with increased reputation. Some years after, upon the establishment of the Philosophical Society of Philadelphia, he was elected one of its first members; he likewise had the honour to serve it in capacity of curator, in the year 1786, after his removal from the former to the latter city.

Upon the institution of the medical school in the college of New-York, Dr. Jones was appointed professor of surgery; upon which branch, he gave several courses of lectures, and thereby diffused a taste for it among the students, and made known the improved modes of practice, lately adopted in Europe, of which most of the practitioners in the country were entirely acquainted. He likewise endeavoured to instill into the minds of his pupils, the same just principles that guided his conduct, when prosecuting his own studies, and (melancholy experience proving the necessity of the caution) pointed out the necessity of regulating their conduct, as individuals, so as not to detract from their merit as professional men. Viewing the science in an enlarged and honourable light, as comprehending the most extensive view of our nature, and as tending to the alleviation and abridgment of human misery, he taught his pupils to despise the servile conduct of those who consider the profession as worthy of cultivation, only in proportion to the emoluments which it yields; and to rely upon the solidity of their own endowments, as the best security of general esteem, and for the acquisition of business. He could, with propriety, recommend the pursuit of this conduct to others, having, in his own person, furnished an instance of its success, which deserves to be recorded, as a proof of the triumph of abilities over ignorance and pride.

For a considerable part of the previous life of Dr. Jones, he had been afflicted by the asthma, and for a long time had struggled to overcome that painful disease; but the exertions of both his own skill, and of the rest of his medical brethren, in most parts of the continent, had hitherto proved ineffectual towards even his relief. He determined, therefore, to take a voyage to Europe, and accordingly sailed for London. Here, in a thick smoke, and an at-

mosphere impregnated with every species of animal putrefaction and effluvia, where so many asthmatics have found such remarkable benefit, he also experienced a considerable alleviation of his complaint; and it is not improbable, that the permanent alteration in his health which he afterwards enjoyed, may in some measure be attributed to the effects of his residence in London. He also employed himself during his continuance in the metropolis, in collecting subscriptions for a hospital in New-York, which he had been instrumental in establishing, and which, for convenience of structure and accommodation of the patients, was inferior to none in this country: all his trouble, however, was of little avail, for shortly after its erection, it was entirely consumed by fire.

In London he again had an opportunity of seeing his friend Mr. Pott, at the head of his profession, and of renewing that attachment which had been previously commenced between them. He had now been for some years left to the guidance of his own judgment, but unlike many who suppose all knowledge to become stationary at the time of their leaving college, he was still willing to be taught by those who had formerly been his instructers, and who, from the greater opportunities they enjoyed, would be enabled to afford him much information. Eager for the acquisition of knowledge, whenever, and wherever it was to be obtained, he again attended the lectures of his old master, Dr. Hunter, and those of his friend, Mr. Pott, who lost no opportunity of showing the consistency between his profession and proofs of respect; during his short stay in London, he paid Dr. Jones the most particular attention, and presented him with a complete copy of his lectures, just before his departure from that city. His kindness however did not end here, for in the frequent applications which he received for advice from all parts of this country, in difficult and important cases, he never failed to recommend his old pupil, as capable of affording any relief to be derived from surgical assistance. In consequence of this, his attendance was frequently desired in the different states; and while he showed by his skill and success, that the opinion which had been formed of him was just, his fame became thereby diffused throughout the continent of America.

The following year he returned to his native country, whose political situation at that time called loudly for the exertions of all her citizens. He again resumed his lectures, and delivered several courses, and in the autumn of the next year (1775,) published his "*Plain Remarks upon Wounds and Fractures*," which he inscribed to his old preceptor, Dr. Cadwalader. Few presents could have been more acceptable to his country, or more opportunely made; for, in the then situation of American affairs, many persons were chosen to act as surgeons, who from their lamentable ignorance of the principles of their profession were but ill qualified for the office; and the performance of Dr. Jones, notwithstanding the publication of more systematic works, will still instruct, and afford valuable information to the student and practitioner of medicine.

The business of teaching, as well as of private practice, was soon after interrupted by the political commotions of his country. The British army having taken possession of New-York, and the adjacent country becoming the seat of war, Dr. Jones, with all the friends of the American cause, had previously left the city; and retired to some distance into the country. Fully convinced of the danger with which the liberties of America were threatened, he did not consider it proper to remain a silent spectator of a contest carried on against a country that gave him birth, and to which he was attached by all the ties of veneration and love; he therefore accepted a seat in the senate of New-York, for the southern district, to which he was appointed by the convention chosen for the organization of the state government, in conjunction with other fellow citizens. When he could no longer be useful in his legislative capacity, he exerted his professional abilities, by entering the medical department of the army, where he rendered important services to his suffering fellow soldiers. But his highly satisfactory employment was of a short duration; for the natural delicacy of his constitution, ill comporting with the hard-

ships of a military life, and the manifest injury his health had already received, rendered it necessary for him to return again to private practice. Accordingly, on the evacuation of the city of Philadelphia by the British troops, he went thither in the summer of 1778; and found that during a short stay there, he enjoyed so much freedom from the asthma, with which distressing complaint he had been long afflicted, that he determined to take up his future residence in that city. In the latter end, therefore, of the following year, or beginning of 1780, he removed to Philadelphia. The citizens of that city were not insensible of his merits; for the same success in practice as a professional man, and the same agreeable manners as a gentleman, which placed him so high in the esteem of his fellow-citizens at New-York, could not fail of attracting those of his new place of residence.

On the resignation of Dr. John Redman, as one of the physicians of the Pennsylvania hospital, in the year 1780, Dr. Jones was unanimously elected by the managers to fill the vacancy, and was continued therein until the time of his death. The same year, he was elected first president of the humane society.

In the year 1787, the physicians of Philadelphia, influenced by the many advantages which have arisen in every country, from well-conducted literary institutions, agreed to establish a college among themselves, for the advancement of the interests of medicine in general, but especially in this country; and elected Dr. Jones vice-president; the chair of the college having been conferred upon Dr. Redman. To the first part of volume first of the Society's Transactions he communicated one of the most interesting papers upon Anthrax. To the several offices above mentioned, Dr. Jones was honoured by an annual re-election until the time of his death.

Dr. Jones was not only the intimate friend, but also physician to Dr. Franklin, and attended him in the last illness, which deprived the world and his country of that philosopher. As it may not be unsatisfactory to know something of the manner in which so great a man conducted himself, when about to close his earthly scene and enter upon another, the existence of which he was falsely reported to have disbelieved, "I have preserved," says Dr. Mease, "the following short account of his last illness, drawn up by Dr. Jones, and published at the time:"

"The stone, with which he had been afflicted for several years, had for the last twelve months of his life, confined him chiefly to his bed; and during the extremely painful paroxysms, he was obliged to take large doses of laudanum to mitigate his tortures; still, in the intervals of pain, he not only amused himself by reading and conversing cheerfully with his family and a few friends who visited him, but was often employed in doing business of a public as well as of a private nature, with various persons who waited upon him for that purpose; and in every instance, displayed not only the readiness and disposition to do good, which were the distinguishing characteristics of his life, but the fullest and clearest possession of his uncommon abilities. He also not unfrequently indulged in those *jeux d'esprit*, and entertaining anecdotes, which were the delight of all who heard them.

"About sixteen days before his death, he was seized with a feverish disposition, without any particular symptoms attending it till the third or fourth day, when he complained of a pain in his left breast, which increased till it became extremely acute, attended by a cough and laborious breathing. During this state, when the severity of his pains drew forth a groan of complaint, he would observe, that he was afraid that he did not bear them as he ought; acknowledging his grateful sense of the many blessings he had received from the Supreme Being, who had raised him from small and low beginnings, to such high rank and consideration among men: and made no doubt but that his present afflictions were kindly intended to wean him from a world in which he was no longer fit to act the part assigned him. In this frame of body and mind, he continued until five days before his death, when the pain and difficulty of breathing entirely left him, and his family were flattering themselves with the hopes of his recovery; but an imposthume

which had formed in his lungs, suddenly burst, and discharged a quantity of matter, which he continued to throw up while he had power, but as that failed, the organs of respiration became gradually oppressed; a calm lethargic state succeeded; and on the 17th instant, (April, 1790) about eleven o'clock at night, he quietly expired, closing a long and useful life of eighty-four years and three months.

"It may not be amiss to add to the above account, that Dr. Franklin, in the year 1735, had a severe pleurisy, which terminated in an abscess of his lungs; and he was then almost suffocated by the quantity and suddenness of the discharge. A second attack, of a similar nature, happened some years after, from which he soon recovered; and did not appear to suffer any inconvenience in his respiration from these diseases."

At this time, when Dr. Jones was reaping the benefits of a long and steady pursuit of his profession, and happy in the possession of the highest confidence of his fellow-citizens, death put a stop to his earthly career. In the month of June, 1791, he rode out on horseback, some miles from town, to visit his friend, Mr. Charles Thompson, secretary to Congress, during the late war. The day was warm, and he was so fatigued by his excursion, that he did not entirely recover himself for several days. On the evening of the 17th, he paid a visit to the President of the United States; and previously to his return home, from being a very sultry day, the air became remarkably cool. He was dressed in a light manner, suitable to the weather, when he set out; but it was not sufficiently warm for the remarkable and sudden alteration in the temperature of the air that succeeded. Having some patients who required his attendance, he visited them before his return home; where he had no sooner arrived, than he felt himself much indisposed. The next morning he awoke, with considerable fever, attended by a diarrhœa, and great prostration of strength. He continued for four days in this situation, with but little alteration, passing almost sleepless nights. Upon the fifth day, he became considerably better; was able to sit up, and the most flattering prospects were entertained of a quick recovery: exhausted, however, by the violence of the disease, the want of sleep, and the conversation of his numerous friends, who had that day visited him, he retired early to bed in the evening, with a view, by the help of an anodyne, to procure some rest. This, however, was denied him, and he continued in a very restless and uneasy state the whole night; during which time he had a very violent return of his asthma. Early in the morning of the 23d, he felt some inclination to sleep, and desired to be left alone. His orders were, perhaps, too punctually obeyed. At eight o'clock, his servant entered his room, and observed him in a calm slumber; he again visited him two hours after, when he found him in the same position, with his hand under his head, to all appearance, in a profound sleep, but, on approaching the bed, he perceived that he breathed no more. The quiet and easy manner of his death, and the apparent strength of body the preceding day, induced some of his brethren to hope that a suspension of animation only had taken place. The usual means of recovery were accordingly tried for some time, but all in vain; the scene was finally closed. He died in the sixty-third year of his age.

The person of Dr. Jones was about the middle size; his habit was thin, owing to his constant affliction with the asthma; his eye was quick and penetrating; his countenance cheerful, but sedate; and his whole deportment easy and polite.

As a surgeon, Dr. Jones stood at the head of his profession in this country; and he may be deservedly considered, as the chief instrument in effecting the remarkable revolution in that branch of the healing art, which is now so apparent, by laying aside the former complicated modes of practice, and substituting those which are plain and simple. The operation to which he principally confined himself, for many of the last years of his life, was that of lithotomy; and his success in this difficult and important object of a surgeon's duty, was great indeed.

Connected with this part of his professional character, was his merit as an accoucher; and in this difficult

and important branch, he was no less successful. During the prosecution of his studies in Europe, he paid particular attention to this subject; and availed himself of every opportunity to become qualified to practise it, both by a strict attendance upon the various hospitals founded for this particular purpose, and upon the private practice of the different professors. In the lectures which he himself delivered in the college of New-York, he dwelt much upon this subject; and he may justly be considered, as the first who gave the medical students of this state, a proper and rational notion of the art. Convinced that nature, or more properly speaking, the *exertions* of the *system*, were, in the greatest number of instances, sufficient for its own necessities, he seldom had recourse to those artificial aids, by the frequent use of which, the lives of the subjects were formerly so often endangered.

The merit of Dr. Jones, as a physician, was likewise considerable. Though educated in the school of Boerhaave, he never professed an implicit faith in any particular system: he was guided by just general principles, and he varied his practice like every judicious physician, with the varying circumstances of the case. The success of his treatment, was the best proof of the truth of his principles, and of the judgment which directed their application. He lamented the imperfection of the science, and never refused the adoption of any rational means of increasing its certainty, or the use of any remedy, because it was new, which had been sanctioned by experience, and had reason and probability to recommend it: on the other hand, the caution with which he gave way to many much famed antidotes, whose short lived reputation proved their merit, marked him the safe and prudent practitioner.—*The American Med. and Phi. Register.*

WILLIAM SAMUEL JOHNSON, L.L.D. late President of Columbia College, died at his residence in Stratford, (Con.) November 14, 1819, in the 93d year of his age.

Dr. Johnson was the eldest son of the Rev. Dr. Johnson, the first President of the College of this city, a man to whom the religion and learning of this country are indebted for many important services. He was born at Stratford, (Con.) in 1727, and was educated at Yale College, where he received the degree of A. B. in 1744. He afterwards pursued his studies for sometime at Harvard University, where he was admitted to the degree of A. M. in 1747, and his name for several years appeared in the catalogue of that institution, as the oldest living graduate. He then applied himself to the study of the law, and his first appearance at the bar forms an epoch in the legal history of his native state. The legal system of Connecticut, was at that time, exceedingly crude, and the irregular equity by which the courts were guided was rather perplexed than enlightened, by occasional recurrence to a few of the older common law authorities, which were respected without being understood.

Dalton's Sheriff, and Justice of Peace, and one or two of the older books of Precedents, formed the whole library of the bar and the bench. General literature and taste were, if possible, at a still lower ebb among the profession. Mr. Johnson, gifted with every external grace of the orator, a voice of the finest and richest tones, a copious and flowing elocution, and a mind stored with elegant literature, appeared at the bar with a fascination of language and manner, which those who heard him had never even conceived it possible to unite with the technical address of an advocate.

At the same time, he rendered a still more important service to his countrymen, by introducing to their knowledge the liberal decisions of Lord Mansfield, the doctrines of the civilians, and afterwards (as more general questions arose) the authorities and reasonings of Grotius, Puffendorf, and the other great teachers of natural and public law.

He soon rose to the highest professional reputation, and after passing with honour through almost all the respectable elective offices of the colony, was sent in 1766 by the colonial legislature, to England, as their Agent Extraordinary, for the purpose of arguing before the royal council, a great land cause of the highest importance to the colony. He remained in England until 1771.

During his residence in London,

he became intimately acquainted with many of those great men, who in various walks of science and letters, of the church and the law, contributed to make that period of English history so splendid. Secker, Berkeley, the amiable and elegant Lowth, Horne, Porteus, Newton, Jones, Sir John Pringle, Wedderburn, Dunning, Burke, and Lord Mansfield, were among his warmest friends. Dr. Samuel Johnson, too, who had not yet learnt to hate the Americans, took a particular liking to his transatlantic namesake, claimed relationship with him, (though the connexion was never very clearly made out,) and after his return to this country, kept up a correspondence with him for some years. During this period, the University of Oxford conferred upon him the degree of Doctor of Civil Law, and he was elected a Fellow of the Royal Society, on the recommendation of Sir John Pringle, who was at that time its president.

After his return to his native country, he again applied himself to his profession, and some time after was appointed one of the judges of the superior court of Connecticut. During the early opposition to the stamp tax, and other measures of the British Parliament for taxing the colonies, he took a decided and prominent stand as "a son of liberty," and was one of the delegates from Connecticut to the Congress of 1763, which met at New-York. In this body (the whole of which he lived to survive by many years,) he was a conspicuous member, was chairman of one of its most important committees, and drew the memorial to the king in vindication of the rights of the colonies, which was adopted by the Congress. After the independence of the states, he represented the state of Connecticut for several years in the Congress of the old confederation. He also represented the state for some years under the old confederation. Upon the calling of the convention at Philadelphia, for the purpose of framing a new constitution for the United States, Dr. J. was sent as delegate from his native state, in company with Ellsworth and Sherman. Here he was eminently useful. Great as the talents of that illustrious assembly were, yet its deliberations were often impeded by jarring interests and local feelings. Dr. Johnson's views were all liberal and national, and "seeking peace in the spirit of peace," he was frequently the happy instrument of conciliation between the jealousies and fears of the smaller states, and the claims of the great ones. The most peculiar and original feature of our government, is understood to have been suggested by him. He first proposed the organization of the senate as a distinct body, in which the state sovereignties should be equally represented and guarded, while the weight of population might be felt in the house of representatives.

He was chairman of the committee of revisal of the constitution, which put in order the several amendments, modified and altered the language, and put that instrument into the form it now bears, previous to its final adoption. On the first organization of the new constitution, Dr. J. was elected a senator in Congress, and in that station largely contributed to form those institutions and to lay down those rules which were thereafter to give to the new government its energy and direction.

Among other acts of great public importance the bill for organizing the judiciary establishment of the United States was drawn up by him in concert with his colleague Oliver Ellsworth. This was not only a work of much labor, but of some address, as it was necessary to form a system which might not only answer the great ends of public justice, but at the same time preserve a great uniformity in the mode of its administration and maintain the authority of the national government, without encroaching upon the state jurisdictions, or rudely innovating upon their established forms of practice.

About this period Columbia College which had fallen into decay during the war, was re-organized and began to attract some share of public attention and patronage. In 1792, Dr. Johnson was elected to the presidency, and continued to fill that station with great dignity and usefulness until 1800, when, in consequence of the infirmities of advancing age, he resigned his office and returned to his native village, where he has ever since resided.

Though retired from busy life, he retained to the last the vigour and activity of his mind, the ardour of his literary curiosity, and the most lively interest in all that concerned the welfare of his country and of the christian world. There are some noble lines of Samuel Johnson, which the writer of this notice has frequently applied to him, and no language could more happily describe his virtuous and venerable age.

——The virtues of a temperate prime,
Bless with an age exempt from scorn or crime,
And age that melts with unperceived decay,
And glides in pious innocence away;
Whose peaceful day benevolence endears,
Whose night congratulating conscience cheers,
The general fav'rite as the general friend,
Such age there is, and who shall wish its end?

His age so far extended beyond the ordinary lot of man, the purity of his life, the kindness and humility of his disposition, and the unshaken confidence of his religious faith, all conspired to invest his character with a sacredness which almost made him regarded as a being belonging to another world, though still lingering among us; and the feelings which his death has excited, are rather solemn than sad. His name is strongly associated with many of our most valuable institutions, and will continue to be venerable, as it has long been dear, to his countrymen.—*G. Verplanck.*

Rufus King, a distinguished statesman, and minister to the Court of St. James' from the United States, was the eldest son of a merchant of Scarborough, Maine. He was born in 1755. He was fitted for college by Master Moody, an eminent instructer of youth, and at that time preceptor of Dummer Academy, at Byfield, in the county of Essex, and state of Massachusetts. Master Moody was a thorough classical scholar, and inspired his pupils with a high veneration for the learned languages. Mr. King graduated at the commencement of 1777, with the first honors of the class, which was considered an excellent one. Gore and Dawes were in this class, and others of distinction. They considered King the first in their time, for all things;—in every study—for languages, mathematics, and oratory; and in every athletic sport, he took the lead—he ran faster, jumped higher, swam better, than any of his companions. Every eye was on him as a young man of high promise. The next year after he left college, he was made an aid to General Sullivan, when that commander marched with his force to attack the British on Rhode-Island. On returning from this campaign he went to Newburyport and resumed the study of the law with Mr. Parsons, then, as during life, the first lawyer in the commonwealth. Mr. King was admitted to the bar in 1780; and on his appearance fulfilled the expectation of his friends. There are now many living who frequently mention one of his first cases. A litigious citizen, of no inconsiderable wealth, had refused to pay one of his female servants, alleging that while she was in his house, some property had disappeared, and pretended that she was answerable for it. She sued, and engaged Mr. King as her attorney and counsel in the case. On the trial, he was severe, and justly so, upon the litigious character of the defendant. The plaintiff was, of course, made every thing honest and fair, and the verdict was given in her favor, and all the by-standers took such an interest in the cause that Mr. King was at once engaged in almost every cause to be argued at the court of common pleas. Such was his reputation at the bar, and so many were desirous of his services, that the supreme court admitted him as an attorney and counsellor long before the ordinary course. He became, from his ready elocution, and courteous manners, at once the idol of the people, and was soon sent a representative from the town of Newburyport to the legislature of the commonwealth. In this body, he soon became a leader. His eloquence and his general information, peculiarly fitted him for distinction in such a body of patriots as that house was then composed of. In 1784 he was sent to Congress, and took a high stand there as he had done in the legislature of Massachusetts. While a member of the old Congress he introduced a bill, which was drawn with prescient sagacity by that profound lawyer, Nathan Dane of Massachusetts, who is now living, —prohibiting slavery north-west of the Ohio. Mr. King enforced this bill with a fine speech, full of the true doctrines of liberty. This was before these doctrines were hackney

ed by every demagogue in the land. In 1787 he was selected as a delegate from Massachusetts to the convention, called for devising a constitution for the United States; the old confederation being found miserably defective, giving little more than advisatory power to Congress in all matters of revenue and defence. As soon as he returned from this duty, he was sent to a convention held in Massachusetts, for the adoption of the proposed constitution. Here he was efficient and active, if not so forward as he might have been had he not had a share in forming the instrument under consideration. This was the most important moment in our national history. In former times, these were topics in which all could agree—all felt oppression: all had grievances, real or imaginary, to redress;—changes might be rung on a thousand subjects to rouse the people to resistance; but when independence was achieved, and no foe at our doors, it was a task, indeed, to make men yield a particle of what they considered their dear-bought rights, to establish a permanent government. A majority of those who fought the battles of the revolution, and of those who made great sacrifices of property to sustain us in the perilous contest, were opposed to the proposed constitution;—they were fearful of entrusting power to any man, or body of men, and probably, if the great idol of the nation, Washington, had not given the sanction of his revered name to the instrument, it would never have been adopted. This was a time that called out the sagacity, the integrity, the light of the mind of the people, to meet the honest fears, and patriotic forebodings of a good and substantial class in the community, a class that was not to be met by sarcasm or contumely, but was to be reasoned with in every form of argument, or they could not be moved an inch; they were not the vulgar, to be despised; nor the noisy to be out-clamored. Parsons, King, Gore, and others of high intellectual powers, became all things, like the apostle Paul, to all men, to save some; and like the great theological teacher, succeeded. The courteous manner, the universal intelligence, and the ready colloquial powers of Mr King, made him conspicuous among the apostles of rational liberty, as he had been before among the representatives of the people.

He had married in New-York in 1786, and soon after this effort in the convention of Massachusetts, went to settle in that state, having relinquished his practice at the bar. When the constitution was carried into effect, he was returned with General Schuyler, a senator from that state. In this august body, as it certainly then was, he became at once conspicuous. In the great agitation respecting the British treaty, he was on the side of Washington and Hamilton, and bore his part with them like a man of equal mind and fearless patriotism. There was a boldness in the character of Mr. King, that at times drew forth the admiration of his opponents. There were many instances which called forth his eloquence in the senate of the United States. On his second term, he was often pitched against his colleague, Aaron Burr, one of the most subtle and ingenious of the great American orators; and particularly against him, and Mr Munroe, in the case of Albert Gallatin, who was returned a senator from Pennsylvania to the United States Senate, when he was not eligible by the constitution. Mr. King was aided by Ellsworth and Strong, and the fight was powerfully carried on, and ended in victory on his side.

In 1796, Mr. King was nominated by Washington as Minister Plenipotentiary to Great Britain. He remained in this capacity until the second year of Mr. Jefferson's administration. He was considered one of the first diplomatists of the age—full of dignity and ease,—attentive to the rights of American citizens, and always maintaining the character of a gentleman in every rank of society. While in England, he negotiated for a convention to settle the boundary lines between the United States and Canada, as he knew that this would, if not settled, become a subject not only of discussion and contention, but perhaps of war. Mr. Jefferson did not at this time feel disposed to touch the subject, and it then remained unsettled.,

Mr. King acted with Hamilton in restoring and establishing public

credit, then fallen to a low state, and a great debt was remaining as a foul blot on the escutcheon of the country without any means devised for paying it off. After his return, in 1803, he visited the state of Massachusetts. At Newburyport, where he had studied law, and commenced his practice, he was greeted with enthusiasm and invited to partake of a public dinner. He accepted the invitation. It was a joyous occasion and he exerted himself to make all happy. The friends of his youth were around him,—a thousand reminiscences were awakened, and never did a dinner,—the modern pledge of affection and admiration,—go off better,—at every step he found old friends glad to see him, and the young who had grown up since his time were familiar with the history of his life, and were eager to catch a glimpse of the man their fathers had delighted to honor. He made a sort of triumphal tour through his own country, an occurrence that seldom happens to any one, whether prophet or statesman. For several years after his return, he retired to private life and enjoyed the *Otium cum dignitate* on his farm, with his books and children around him.

After the declaration of war in 1812 he took sides with the government on all the main points of the controversy, and for this was sent by the legislature of New-York a senator to Congress. His speeches at this time gave him great celebrity with the Democratic party, but abated some of the fervor of affection which existed in the breasts of his old friends; but most of them retained their first love, if they did not come into his opinions in politics. In 1816, he was a candidate for the gubernatorial chair of the State of New-York; but did not succeed in the election. In 1820, he was again elected to the Senate of the United States, and took an active part in that body. In 1825, he was nominated by Mr. Adams as minister to Great Britain, and proceeded to that court, but his health was such, that he did not do much in the way of negotiation. Mr. King returned in 1826, and retired to his farm on Long Island, where he lingered until April 29, 1827, when he died, aged 72 years. There are some things attributed to his pen of high merit. It is said he wrote with Hamilton the papers on the British treaty, signed Camillus. Hamilton wrote the ten first, and King the remainder. These papers had an extensive circulation, and great celebrity, and deservedly so; but it may, perhaps, be said, that no man who said so many wise things, ever wrote so few, for posterity. For many years he was considered the first orator in the country, and yet no one can put his finger on a speech of his that will sustain that reputation; but no man could be in company with Mr. King an hour, without fully believing every word that had been said of his great powers as an orator, and of his sagacity as a statesman. His style of conversation was admirable. His language was pure, good old English. He took hold of passing occurrences, and lavished upon them the affluence of intellectual wealth, from an inexhaustible store house; without effort, he threw a beam of light upon every subject in his way, and illustrated, adorned, and glorified every thing he touched. The great men of his day did not think enough of the time to come. His friend, classmate, and rival,—if friends can be rivals, and if we go back to the origin of the word, they can be; opposite sides of the same river, whose waters flowed harmoniously on together, gave rise to the term; Christopher Gore, had the same powers of the imagination, and the same depth of thought. These friends like Castor and Pollux, shared their immortality together, without any heart-rending alternations of supremacy. They died within two little months of each other, with nearly the same views of this and of another world, and no one will object to their being placed among the constellations of worthies, in our Zodiac of American statesmen and patriots. Gore died childless, but King left several sons to perpetuate his name and fame.

Francis Knapp, a scholar, poet, and composer of music, was the son of George Knapp, a captain in the British Navy, who commanded a ninety-gun ship on the American coast, early in the last century. The father of George had lands near Boston, in the town of Watertown, and

the grandson came to take possession of them. Francis lived at Watertown and devoted himself to literature and science. His works were printed in London. When Pope's Windsor Forest, reached this country, Knapp wrote his friend a congratulatory epistle, as was customary in those days. This epistle is dated April, 1717, and the poetry is far superior to the current American poetry at that period, although Cotton Mather was then alive. In fact, the verse of the cis-atlantic bard has much of the genius of his great prototype. The following lines are extracted from his letter.

'Hail, sacre! bard! a muse unknown before
Salutes thee from the bleak Atlantic shore.
To our dark world thy shining page is shown,
And Windsor's gay retreat becomes our own.
The Eastern pomp had just bespoke our care,
And India pour'd her gaudy treasures here;
A various spoil a barn'd our naked land,
The pride of Persia glitter'd on our strand,
And China's earth was cast on common sand;
Tossed up and down the glossy fragments lay,
And dream'd the rocky shelves, and pav'd the painted bay,
Thy treasures next arriv'd; and now we boast
A nobler cargo on our barren coast;
From thy luxuriant Forest we receive
More lasting glories than the east can give.
Where'er we dip in thy delightful page,
What pompous scenes our busy thoughts engage!
The pompous scenes in all their pride appear,
Fresh in the page, as in the grove they were.
Nor half so true the fair Lodona shows
The sylvan state that on her borders grows,
While she the wandering shepherd entertains
With a new Windsor in her watry plains;
Thy juster lays the lucid wave surpass,
The living scene is in the muse's glass,
Nor sweeter notes the echoing forests cheer,
When Philomela sits and warbles there,
Then when you sing the greens and op'ning glades,
And give us harmony as well as shades:
A Titian's hand might draw the grove, but you
Can paint the grove, and add the music too.
With vast variety thy pages shine;
A new creation starts in every line.
How ambien trees rise to the reader's sight,
And make a doubtful scene of shade and light,
And give at once the day, at once the night!
And here again what sweet confusion reigns,
In dreary deserts mix'd with painted plains!
And see! the deserts cast a pleasing gloom,
And shrubby heaths rejoice in purple bloom;
Whilst fruitful crops rise by their barren side,
And bearded groves display their annual pride.
Happy the man who strings his tuneful lyre,
Where woods, and brooks, and breathing fields inspire!
Thrice happy you! and worthy best to dwell
Amidst the rural joys you sing so well,
In a cold, and in a barren clime,
Cold as my thought, and barren as my rhyme,
Here on the western beach attempt to chime.
O joyless flood! O rough tempestuous main;
Border'd with weeds, and solitudes obscene!
Snatch me, ye gods! from these Atlantic shores,
And shelter me in Windsor's fragrant bow'rs;
Or to my much lov'd lais' walk convey,
And on her flow'ry banks forever lay.
Thence let me view the venerable scene,
The awful dome, the groves eternal green;
Where sacre! Hough long found his fam'd retreat,
And brought the muses to the sylvan seat,
Reform'd the wits, unlock'd the classic store,
And made that music which was none before.
There with illustrious bards I spent my days,
Nor free from censure, nor a stranger to praise;
Enjoyed the blessings that his reign bestow'd,
Nor envy'd Windsor in the soft abode.
The golden minutes smoothly danc'd away,
And tuneful bards beguil'd the tedious day;
They sang, nor sung in vain, with numbers fir'd
That Maro taught, or Addison inspir'd.
Ev'n I essay'd to touch the trembling string;
Who could hear them, and not attempt to sing?
Rous'd from these dreams by thy commanding strain,
I rise, and wander through the field or plain:
Led by thy muse, from sport to sport I run,
Mark the stretch'd line, or hear the thund'ring gun.
Ah! how I melt with pity, when I spy,
On the cold earth, the flutt'ring pheasant lie;
His gaudy robes in dazzling lines appear,
And ev'ry feather shines and varies there.
Nor can I pass the gen'rous courser by;
But while the prancing steed allures my eye,
He starts, he's gone! and now I see him fly
O'er hills and dales, and now I lose the course,
Nor can the rapid sight pursue the flying horse.
Oh could thy Virgil from his orb look down,
He'd view a courser that might match his own!
Fired with the sport, and eager for the chase,
Lodona's murmers stop me in the race,
Who can refuse Lodona's melting tale?
The soft complaint shall over time prevail;
The tale be told, when shades forsake her shore,
The nymph be sung, when she can flow no more.
Nor shall thy song, old Thames! forbear to shine,
At once the subject and the song divine
Peace, sung by thee, shall please ev'n Britons more
Than all their shouts for victory before.
Oh! could Britannia imitate thy stream,
The world should tremble at her awful name:
From various springs divided waters glide,
In diff'rent colors roll a diff'rent tide,
Murmur along their crooked banks a while,
At once they murmur, and enrich the isle;
A while distinct through many channels run,
But meet at last, and sweetly flow in one;
There joy to lose their long distinguish'd names,
And make one glorious, and immortal Thames.

HENRY KNOX, a Major General of the American army, during the revolutionary conflict, was born at Boston, July 25, 1750. He received his education at the common schools in that city, and for several years was an apprentice at the book-binding business. When he set up for himself, he connected with his bindery a small bookstore. His noble appearance, and excellent character, captivated the heart of a young lady of an aristocratic and tory family. And Henry Knox and Miss Flucker were married previous to the breaking out of the revolution. By her residence in this country, when her kindred fled, their ample estates came to her; they consisted mostly of grants from the crown to her maternal grandfather, Brigadier General Waldo, who was second in command at the capture of Louisburg in 1745. Knox was at an early age a private, and then a non-commissioned officer, in a company of artillery, commanded by Adino Paddock, Esq. who thinking that the colonies were not sufficiently strong to contend with the mother country, resigned his office and returned to England, with the other refugees. Retaining a

strong partiality for his native land, at his departure he addressed his company, and recommended to them, if they wished to be led by a gentleman and a soldier, to elevate Henry Knox to the command. When Boston was declared under martial law, after the battle of the 19th April, 1775, at Lexington and Concord, Knox, made his escape from the town, and repaired to the head quarters of the American army. He had paid much attention to artillery and ordnance, having been an intimate acquaintance of Col. David Mason, who was an officer of the engineer corps, in the war of 1755. Capt. Mason had fired the last shot in fort William Henry, before it capitulated to Montcalm; and was among those saved in the dreadful massacre which followed.—"The dead fly in the *savory* ointment of Montcalm's glory," to use the phrase of an old New-England preacher and historian. Mason was a man of science, and Knox was a most assiduous scholar. It was known that there was a number of pieces of ordnance which the English and Provincials had left at St. Johns, on the Canada frontier, at the close of the French war. A corps of men was put under Knox's orders, and he successfully performed the enterprise of bringing them away. The commander in chief was delighted with the success of the romantic adventure, and recommended him to Congress to take the command of the artillery, an appointment which was given him, with the rank of Brigadier General. He was now employed in making this department as efficient as possible; but for several campaigns, he had to struggle with difficulties, which could not have been surmounted by an ordinary man. In the passage of the Delaware, he made the noblest efforts to cheer and animate his half-clothed and half-starved followers. They were on the ground at Trenton, at the same time with the infantry. At Princeton, Germantown, and in most of the battles, to the close of the war, he was actually engaged. Knox never for a moment lost the confidence of the commander in chief, who generally kept him near his person. For his gallantry at the capture of Lord Cornwallis, he was promoted to the rank of Major General. He was afterwards intrusted with the command at West Point, and was instrumental in suppressing the excitement caused by the Newburgh letters, dispersed among the officers and soldiers, just as the army was about being disbanded. In March, 1785, he was appointed Secretary at War, in which office he was continued by Congress, until 1789; and on the adoption of the Constitution was appointed by Washington to the same office, to the duties of which were superadded those of the Navy Department. In 1794, he retired from public life; but in 1798, was called again to be in readiness to serve his country, being commissioned as a Major General in the army, then voted to be raised by Congress, to defend our shores a second time; but he was not called into the field; the excitement under which the army was raised having passed away. He now settled in the District of Maine, then a part of the Commonwealth of Massachusetts. Here he lived in a most hospitable style, and his spacious mansion was generally filled with guests, from every part of the United States. Although two hundred miles from the metropolis of Massachusetts, it was no uncommon thing for the traveller to find from twenty to fifty strangers under his roof, living in Baronial abundance, and gentlemanly ease. General Knox was a man of business habits, and his mornings were strictly devoted to his duties; but he came to join his friends at dinner, when he threw off all care; with a most courteous demeanor, he made his friends happy, and enlightened them with the rich stories of his well-informed mind. He was as popular in his neighborhood, as abroad; all belonging to the wide extended country around him, came to consult him, as a friend, brother, and father, in their difficulties. The pulses of his heart beat with benevolence, and his hand was always open to those who wanted assistance. His figure was colossal and majestic, but not void of grace. He never lost the polished manners of the field officer, either in political or civil life; not that he marched the floor as a dragoon, but a martial air continually hung around him, and the military man could easily tell that he had been with Washington. General Knox died on the 25th of

October, 1806, aged fifty-six years, from an inflammation of the throat and chest, caused by swallowing a sharp patridge bone:—thus the soldier, who had been in constant danger for seven years, in battle after battle, in the hottest of the fight, died as seldom a child dieth. His death was deeply lamented, not only in his native state, but in every part of the country, for his acquaintances were numerous, and he was beloved wherever known.

Thaddeus Kosciusko was born in Lithuania, in the year 1746. He was educated at Warsaw, at the school of cadets, and was so distinguished there, that he was sent by that institution to the highest schools in France to finish his studies. Political prejudices prevented his rising in the Polish armies, on account of an unfortunate affair of the heart, in which the course of his affection was interrupted by the pride of ancestry. He left his native land in 1777, and joined the American army. Washington had been acquainted with his merits, and put him at the head of the engineer corps. He fortified the camp of General Gates, in his campaign against Burgoyne, and was afterwards sent to West Point, to erect the works there. He was highly esteemed by both American and French officers. He was admitted a member of the Cincinnati; and received the thanks of Congress for his services. At the close of the revolutionary war he returned to his native country, and was made a Major General under Poniatowski. He fought several battles with great bravery, but all his efforts were destroyed by the miserable conduct of the Polish Diet. In the month of April, 1794, on the breaking out of a new revolution, he was made Generalissimo with the power of a Dictator. He managed with great address and bravery, until the 10th of October, when being overpowered and wounded, he was made prisoner, and carried to St. Petersburgh. He was kept in confinement until the death of Catharine, when he was relieved by Paul, loaded with honors, and offered employment in the Russian service; but this he could not accept. In 1797, he visited the United States, and received a grant from Congress for his services. In the latter part of his life he retired to Switzerland, where he died, October 15, 1817. His remains were taken to Cracow, and a public funeral made for him at Warsaw, where almost divine honors were paid him. The cadets at West Point have raised an elegant monument to his memory, within the works which he erected.

Joseph Brown Ladd died nearly half a century ago; and at this distant period, little can be ascertained with accuracy in regard to his short but brilliant career. He was the eldest son of William and Sarah Ladd, of Newport, Rhode-Island; at which place he was born, in 1764. He was therefore a mere child at the breaking out of the war of the revolution. Bearing this in mind, the reader need only be informed, in addition, that his father's pecuniary circumstances were moderate, to know that his opportunities of education must have been very limited. A system of common schools established by law was unknown in Rhode-Island; and owing to the embarrassment of the times, scarcely a single institution for the study of the higher branches of science or literature was in operation; or if in operation, they were beyond the reach of any but the wealthy. Private and neighborhood schools, however, were not wanting; and of the best of these in Newport, young Ladd, during the first ten years of his life, from time to time, had the benefit. But, in general, little more was aimed at in them than the mechanical parts and first elements of an English education; and to these it is believed the instruction afforded him was confined. He never afterwards attended a school of any description.

Of the method of elementary instruction then in vogue, and which, in spite of modern improvements, still prevails to a great extent, it may be remarked that it was calculated to paralyze rather than to benefit the mind; for it did violence to nature. Knowledge is the aliment of the mind; but it is the knowledge of sensible, or at farthest, of imaginable objects, which is adapted to its infant state. Abstractions, abstruse conclusions, and relations, form the proper exercise of maturer faculties. The fault of the system

alluded to was, that it commenced by forcing upon the memory lessons which the understanding could not comprehend. The child became disgusted with the labor imposed upon him, and could only be aroused to exertion by some ulterior motive, such as fear, emulation, interest, or ambition—motives which never yet made a scholar. The reverse of this is undoubtedly the correct course. Curiosity is the strongest trait of childhood, and it is gratified by knowledge adapted to the capacities of the mind. That which gratifies, at the same time stimulates it; and when stimulated to a high degree in reference to proper objects, it becomes a passion which we dignify by the name of a "thirst for knowledge"—a passion which looks upon obstacles, not as "unconquerable bars," but as things to be overcome. Without it, none need aspire to intellectual eminence; while its possessor will either consume in its fires, or illumine the age in which he lives. Common sense, therefore, would seem to dictate that this passion should be excited (as it easily can be) before even the alphabet is put into the child's hands. The labor of acquiring the elementary branches would then be regarded as the means of gratifying the passion thus aroused, and submitted to with alacrity; and what, under the old system, was the labor of years, would be accomplished in as many months.

The accidental excitement of this passion for knowledge, in early childhood, in connection with a constitutional ardor of temperament, is perhaps sufficient to account for the most surprising instances of precocious genius on record; and undoubtedly illustrates the case of the subject of this memoir. The elementary schools which he had attended, however imperfect, having furnished him with the key of knowledge, his mind was too bold and enterprising, and too thoroughly stimulated, to remain on the threshold for want of a guide. With the heroism of true genius, he plunged into the labyrinth alone,

"Proud of the strong contention of his toils,
Proud to be daring."

Devoting himself incessantly to study, to the neglect of the ordinary sports of childhood, and possessing an unusual quickness of intellect, his progress must necessarily have been rapid. There is reason to believe, that at the age of eleven, without instruction, except what has been stated, or other facility save the possession of books, he had made no small proficiency in mathematics, acquired such a knowledge of Latin as to read authors in that language with satisfaction, and accomplished an extensive course of historical reading. He was intimately acquainted with the Bible, and could repeat a large portion of it from memory.

Even at this early age, a passion for scribbling had seized him, and was frequently indulged in. One of his pieces in verse, entitled "An Address to the Almighty," written at the age of ten, has been preserved among his papers. It was first published in a newspaper edited by Solomon Southwick, of Newport, and deemed worthy of a place in a collection of hymns compiled shortly afterwards, in which the author being unknown, it was by mistake, attributed to Collet. Whatever may be said of its poetical merits it is the effusion of a feeling heart and reflecting mind, and evinces the most correct views on the part of the infant writer, of his relation to his fellow creatures, and to the Author of his being.

In 1775, Mr. Ladd removed to Little Compton, Rhode-Island, where he purchased a farm, and put in requisition the labor of his sons for its cultivation. This, to the subject of our memoir, was a most unwelcome change. He soon became discontented with his new occupation, not from any indolence of disposition, but because it wholly interrupted the studies to which he had devoted his soul, and threw a gloom over those gorgeous but undefined visions of future greatness, which we may suppose were indulged in by a boy of his ardent spirit, who had become conversant with the deeds and sentiments of the great men of past ages. He made no secret of his unconquerable aversion to the drudgery of agriculture; and had recourse to various stratagems to escape from it when compelled to labor by parental authority. On one occasion, he fitted up a study in a thicket of alder-bushes, in an enclosure through which he had to pass to his employment, in a manner so ingenious as to elude discovery for many months.

having furnished it with a number of his favorite authors, he daily spent there as much time as he dared to withhold from the labors of the farm, proving in his solitary revels the sweetness of stolen waters. When reprimanded by his father (as he frequently was with much severity) for his neglect of business, and admonished of the future consequences of indolence, his reply was, "my head, sir, and not my hands, must support me."

An experiment of three years at length convinced his father of the impossibility of reconciling him to a farmer's life, and the necessity of giving him some other profession. At the age of fourteen, therefore, he was placed in a mercantile establishment. But this proved even more revolting to his taste than his former occupation. In that, if but little opportunity was afforded for reading, there was much for reflection and reverie. The duties of a farmer are mostly simple, and may be rendered so purely habitual, that the attention required of the mind shall form but a slight interruption to the more engrossing trains of thought by which it is occupied. Thus, some of the sweetest effusions of Burns were composed while following the plough. But in a store, an unremitted wakefulness of attention is required to minute particulars, and a value attached to trifles which in the eyes of Ladd must have been worthless. For one whose habit of abstraction from objects of sense for the pursuit of intellectual pleasures, had become so unconquerable, a situation of greater discomfort could hardly be imagined, and he endured it but for a few months, when, at his urgent request, he was removed.

His next location was in the printing-office of Mr. Southwick, of Newport, where, it was thought, he might, while acquiring a trade, gratify, in some measure, his inordinate passion for books. Here he remained about a twelve-month; and the anecdotes related of him forcibly bring to mind the career of Franklin in a similar situation. It was during this year that a gentleman of Newport, having remarked his ready talent at composition, induced him to write some ballads upon certain quacks with whom the town was infected. These performances, which are now lost, are said to have been specimens of the most vigorous satire. Transported beyond the bounds of propriety by the applause which they elicited, and instigated by the person who had before employed him, he aimed at a more conspicuous but less vulnerable object, and in a satirical poem dared to assail the venerable Hopkins, who, not being disposed to bear such abuse from a boy, had recourse to parental authority for redress. The sensation produced by this unjustifiable attack was probably the immediate occasion of his removal from the printing-office; but it also gave rise to a series of consultations on the part of his father, which resulted in a determination to let him take the course indicated by his natural bias, and to give him as liberal an education as possible. His choice was to become a physician; and with this view, at the age of fifteen, he was placed under the tuition, and received into the family of Dr. Isaac Senter, a distinguished physician and surgeon at Newport, who had long remarked his genius, and passion for learning, and felt the most lively interest in his behalf.

In this arrangement, Ladd saw the hopes, whose delay had for years sickened his heart, at length realized; and entered upon his studies as though sitting down to a banquet with an appetite sharpened by long fasting. He proposed to himself not merely to acquire the medical profession and the branches immediately connected with it, but to accomplish a full course of science and literature similar to that pursued in the collegiate institutions of the day. The want of instruction, which to most persons would have proved an insuperable barrier, was, to one of his enterprising spirit, and bold, original mind, but a trifling difficulty. Dr. Senter was, indeed, well qualified and ever ready to give him every aid consistent with his professional duties; but all that Ladd ever required, besides an opportunity for study, was the necessary books; and these were supplied him by the Doctor's private collection, and a free access to the Redwood library of Newport. With so arduous a task before him, his application, as might be expected, was incessant;

and would probably have been attended with fatal consequences, had it not been restrained by the parental solicitude of his new preceptor and patron, who compelled him to take relaxation and exercise; and who found it necessary to deprive him of light after a certain hour at night, and when the moon shone brightly, even to take away his books.

But notwithstanding Ladd's great devotion to books, he was by no means the mere passive recipient of other men's thoughts. He subjected their doctrines and theories to a rigid investigation by a method of his own; and by the exercise of logical weapons in solitude—an exercise usually requiring the stimulus of opposition—he acquired a critical acumen, an acuteness in the detection of sophistry, and a dexterity in the use of arguments, which would have done no discredit to a thorough-bred dialectician. Studying, generally, with pen in hand, the thoughts suggested to his mind, the conclusions which he arrived at on disputed points, and his reasonings in opposition to the author under perusal, were noted down, and frequently took the form of critiques and theses of various lengths, which, though written in haste for his own use, and therefore unfit for publication, show, at least, the severity of the mental discipline to which he subjected himself, as well as the variety of important subjects to which his attention was directed. Indeed, self-taught as he was, it may be assumed, at the end of the four years which he spent with Dr. Senter, that in academical attainments (independent of his professional studies) he was not behind the graduates of the best public institutions then in operation. In mathematics his course had been unusually extensive. Of chemistry, in its then imperfect state as a science, and in physics, his knowledge was as ample as could be acquired by a diligent perusal of the best treatises, without the aid of apparatus and experiments. Physiology, of course, as belonging to his professional studies, was not neglected. The writings of Locke had been read with delight, and were his guide in mental philosophy, as were the lectures of Blair in the department of rhetoric and criticism. He had studied the Greek and Latin classics usually comprised in a collegiate course, in connection with the antiquities and mythology of Greece and Rome. Besides these, he is known to have been acquainted with Hebrew and familiar with the French language and literature; though these were perhaps acquired subsequently to the period above mentioned.

In his hours of relaxation, the English poets and essayists were his favorite companions; and as in his severer studies the authors he consulted were made use of only as aids to his investigation of the subjects upon which they treated; so his light reading served as a means of exciting his own fancy, and usually produced some effort at composition either in prose or verse. In his occasional visits at Little Compton, his time was generally occupied in this manner. Most of the poetical compositions were written during his residence with Dr. Senter; but they form only a small proportion of what he wrote. The greater part, and probably the most valuable of them, are now irrecoverably lost.

Some of these pieces appeared in the newspapers of the day, under the name of Arouet—a name which he always afterwards retained, and by which he became at length well known to the public. At the period we are speaking of, however, he rarely ever wrote with a view to publication, but rather for the sake of the pleasure it gave him, and the improvement he expected to derive from it as an exercise. He could not help being flattered by the eagerness with which his manuscripts were sought after by his acquaintances; and not unfrequently expressed a hope that at a future day he might produce something fit for the eye of the public: but his standard of excellence in writing was high; and, fully alive to the defects of these juvenile effusions, he never would have published them himself, and it was with extreme reluctance that he permitted his friends to do it.

It is but justice to remind the reader of this fact, as well as of the time at which these pieces were written, that they may be compared only with the poetry with which the author was conversant, and from which his taste was formed. This ought especially to be kept in view in refer-

ence to the amatory effusions inscribed to "Amanda." Love letters in rhyme are now out of date; and at best were but an indifferent medium for the expression of the master passion, which has indeed a language of its own, unutterable by tongue or pen. Even when most in vogue, such compositions were chargeable in no small degree with affectation—the sentiment versified being generally fictitious, and addressed to an imaginary mistress. But the poetical letters of Arouet to Amanda were dictated by genuine feeling. During the latter part of his residence with Dr. Senter, he became attached to the lady whom he chose to address by that name—a being "lovely to soul and to eye"—and this new sentiment, it is needless to say, partook largely of the fervor and enthusiasm which formed so prominent an ingredient in his character. She was an orphan heiress, under the guardianship of mercenary relatives, who finding the management of her estate a source of profit to themselves, did not hesitate to sacrifice her happiness to their own interest. As their trust would terminate with her marriage, they seemed resolved to delay such an event as long as possible, if not to prevent it altogether. Hence they strenuously opposed the advances of Ladd, refusing their countenance to his suit, and endeavoring, by a species of petty tyranny, to break off his intercourse with her. Not content with open opposition, they had recourse to calumnies, which, though groundless, were so ingeniously devised, and industriously bruited, as at one time to shake the confidence of some of his best friends. It was while suffering under these wrongs, and brooding over the many obstacles which stood between him and the accomplishment of his wishes that the letters to Amanda were written. From their plaintive tenor, one is at first led to suppose him harping upon the stale topic of unrequited love. But this was far from being the case. The lady in question returned his affection with equal warmth, and duly appreciated his worth, notwithstanding the efforts made to destroy his character in her estimation. His narrow circumstances, and, as yet, uncertain prospects, and the opposition of her guardians, to say nothing of the youth of both parties, prevented their marriage at the time; but they did not prevent a private engagement between them, which continued up to the period of his untimely death. She survived him, indeed, for several years, but never wholly recovered from the shock occasioned by that event.

In 1783, Ladd closed his studies with Dr. Senter, and received license to practice medicine. While on the look out for a location, he was so fortunate as to make the acquaintance and secure the friendship of Gen. Nathaniel Greene, who had just returned from the field of his military labors, to the bosom of his native state. By his advice, Ladd was induced to try his fortune in the southern states; and shortly after removed to Charleston, S. C., where, in the spring following, being then in his twentieth year, he commenced the practice of medicine. An introduction from "the hero of the south," for whose distinguished services in the revolutionary struggle then just closed, every heart was filled with gratitude, could not fail of securing to our aspirant the ready confidence of the people whose patronage he sought. Commencing his professional career under such favorable auspices, his assiduity, his success in the treatment of difficult cases, and his engaging manners, soon gave him an extent of practice such as physicians generally think themselves fortunate in obtaining after a probation of many years.

Beneath the caresses and approving smiles of the warm-hearted Carolinians, his genius seemed to receive new life, and burst forth with fresh luxuriance. He now, for the first time, felt encouraged to come forward as a writer in the public journals; and his contributions, which were continued as regularly as his other duties would permit, were received with unequivocal applause He sported in every measure of verse, and is known to have engaged in the discussion of most of the topics of public interest at the time. The critique on Dr. Johnson's works, however, is the only one of his prose essays written during that year which can now be found; but that will suffice to illustrate the independent cha-

racter of his mind. It was a bold deed for a stripling of his age to cast the first stone at the literary giant in the very hour of his triumph; but he dealt a palpable hit; and the justice of his remarks is well sustained by the decision of later times.

In the next year, 1785, we hear of him as the orator named by Governor Moultrie to deliver an address in presence of the executive authority and the Cincinnati of South-Carolina, on the birth-day of American independence. To the citizens of Charleston is due the honor of first marking the anniversary of this event by public demonstrations of joy. This was on the 4th of July, 1778, when Dr. Ramsay, the distinguished scholar and historian, delivered an address. The celebration in 1785 was the second which was observed in Charleston. The address of Dr. Ladd on this occasion, a part of which has been preserved by Niles in his "Principles and Acts of the Revolution," was never written out in full. He received the appointment but a few days previous to the celebration, during the sickly season, while employed day and night in his professional duties; and could only arrange his thoughts on horseback, or pencil hasty notes while stopping at the houses of his patients. His address therefore is to be regarded as an extemporaneous effort; and the extract given from it in Niles' work, as the sketch of a reporter. It was during this year, also, that he delivered a course of public lectures on chemistry in Charleston, a syllabus of which was published in one of the newspapers of that city.

Of the particular incidents of his life, while a resident of Charleston, we have no knowledge; and a sketch of his character farther than is indicated by the foregoing memoir, unless drawn from an intimate personal acquaintance, would, of course, be a mere fancy-piece. Of his standing and prospects, however, which were doubtless the result of a due estimation of his worth, we are enabled to speak from authority and with confidence. Admired, esteemed, and beloved by a numerous circle in the highest ranks of society, and at the same time popular with the humbler class for his active benevolence; toiling incessantly at his profession, yet neglecting no opportunity to inform himself on subjects of interest to the scholar, philosopher, or politician; interesting himself in the important public questions of the day, particularly such as regarded the rising institutions of the commonwealth of which he had become a citizen; with a good constitution, temperate habits, and talents of the highest order, no young man perhaps ever had a fairer prospect of rising to eminence, usefulness, and high political distinction, than Dr. Ladd, at the period of which we are speaking.

A situation so enviable did not fail to excite envy. To be obnoxious to its baleful eye, is the "hard condition twin-born with greatness." Though entirely amiable in his disposition, and courteous in his manners, no man possessed a more high-toned sensibility, or more chivalrous spirit. It was not difficult, therefore, for one bent on his destruction, to draw him into a quarrel. In November, 1786, at the age of twenty-two, he underwent a challenge for some frivolous cause; and, though averse to duelling from principle, yet the tyranny of public sentiment was such, that to decline the rencounter would have made him the mark of public scorn, and wholly destroyed his standing and influence in society. His conduct on the field was firm; but acting without enmity in his heart, and with no other motive but the preservation of his character, he purposely fired wide of his mark. Not so his antagonist. His purpose was murderous, his aim careful—and Ladd became his victim.—

"Multis ille bonis flebilis occidit."

Wm. B. Chittendon.

John Lathrop was born in Boston, January, 1772. He was son to the Rev. John Lathrop, D. D. pastor of a Congregational church in the same place; a gentleman highly respected for his virtues and good sense. His son was graduated at Harvard University in the year 1789, and was distinguished for his scholarship and taste in a class in which were numbered Kirkland, the Blakes, and other men of celebrity. On leaving college he entered the office of Christopher Gore, late Governor of this Commonwealth, as a student at law, and pursued his studies with considerable assiduity. Gore was a man of industry, talents, and success in busi-

ness, and of such weight and standing in the community, as to give a very considerable direction to the views and pursuits of his pupils. But even in this law office, Lathrop, at intervals of his studies, stole a few moments to sacrifice to the muses, and became more known to the public as a poet than as a lawyer. He opened an office in Boston, had many friends and some business, but not sufficient to answer his expectations, and in 1797 he removed to Dedham, in the county of Norfolk, and opened his office in the neighborhood of that far-famed statesman, Fisher Ames, in whose company he enjoyed much as a literary man. In the following year, 1798, he was appointed clerk of the courts for that county, but this station was not suited to his talents or habits, and he left it without much regret, and returned to Boston. In Boston he had found congenial spirits. At this time he associated with the poets of the day, Paine, Prentiss, and others. There were in Boston several editors of papers, men of open hearts, generous dispositions, and possessing considerable influence in society; around them the poets and men of taste and letters assembled, and were always sure of a cordial reception, and any act of friendship they might need to free them from temporary embarrassments. At their houses these poets found the "Cæna Deum" at which they indulged their fancies, and regaled their appetites.

Paine was bold in his views, quick at retort, and sometimes fearfully sarcastic. His genius was certainly of a high order, and his imagination prolific. His talents always commanded admiration, his wit excited merriment and delight. He was followed and eulogized, honored by attentions, and considered by all, the first poet of the place. Lathrop was modest, learned and poetical, but had much less of the ardor of genius, and the sparkling of wit than Paine, but more chastity of style, and more method in his compositions and conversations. Prentiss was easy, familiar, good-natured and poetical, and amused himself at the parade of learning in Paine, and laughed at the sentimental solemnity of Lathrop. These wits and poets were not destined to live in peace for a great while; Paine perceived how much purer was the taste of Lathrop than his own, and the latter felt no small disturbance at the unbounded fame of his rival. It was not a period of fair and just criticism, and good taste. The extravagancies of genius were more highly valued than the sweetest inspirations of the most refined and classical muse. These wits were not contented with brisk attacks and keen retorts at table, but pursued each other into the public papers; and in the general opinion, Paine had the advantage; for boldness, strength, and even coarseness of sarcasm, are better comprehended by the generality of men than refined irony and polished satire; to them the tomahawk seems a more fearful weapon than the sword. These effusions were the bane of their repose, and an interruption to their pursuits. The public are pleased with such a contest; they love to see these rockets of wit and satire thrown for their sport; but the principals in the affair, are always sufferers in their professional business, for clients are sharp-eyed, and see when men attend more to amusements and other pursuits, than to their interests; and in their justly jealous dispositions no splendor of genius will ever make amends for deficiency of attention. In 1799, not being satisfied with his success in the profession of the law, Lathrop determined on a bold push to better his fortunes, and embarked for India; there his fancy had pictured every thing in gold and precious stones. To him it was painful to leave his friends and his home, for a far distant country, but in so doing there was something romantic, which suited his disposition, and he persuaded himself that in a few years he should return with a rich harvest of wealth to gladden their hearts; but had gold rained there, as in the fabled shower, he would not have gathered more than he wanted for the present use. Gold to him was like the manna to the children of Israel; its supply could only be for the day: And would to Heaven that for such men it could fall at regular periods, to answer their demands, and no more; for want makes them unstable and wretched, and a profusion produces negligence, eccentricities, and folly.

In India he was destined to new disappointments. The governmen

was arbitrary, and the places of profit were filled. The rulers were jealous of adventurers of other nations, and particularly at this period, when continental Europe was in a paroxysm of liberty, and every thing bold and free in literature and politics was dreaded by the prudent and the wise. Lathrop established a school in Calcutta, but was of course narrowly watched by the government, and very much limited in his plans of instruction. They were willing that he should teach in elementary knowledge, but feared an extensive system of education, as full of evils to their political establishments. An anecdote will illustrate this assertion. In the ardor of his zeal for instructing the rising generation of Calcutta, he presented to the Governor General (the Marquis of Wellesly) a plan of an Institution, at which the youths of India might receive an education, without going to England for that purpose. In an interview with his Lordship, Lathrop urged with great fervency and eloquence, the advantages that he believed would flow from a seminary well endowed, and properly patronized by the government, on such a plan as he recommended; but his Lordship opposed the plan, and in his decided and vehement manner, replied, "No, no sir, India is and ever ought to be a colony of Great Britain; the seeds of independence must not be sown here. Establishing a seminary in New-England at so early a period of time hastened your revolution half a century."—This remark had much shrewdness in it, for it is an unquestionable fact, that the diffusion of knowledge in New-England, assisted in preparing the way for our separation from the mother country. Harvard University has done much, in spreading the spirit of free inquiry amongst us. At this institution ecclesiastical and political rights were discussed as common topics of forensic disputation, and the reciprocal duties of rulers and people were in the mouths of every student at a very early age of our history. When discussion is free, decision and action will always follow settled opinion; but the manners, habits and feelings of the inhabitants of India will long differ from those of the people of the United States; and his Lordship's fears drew too sudden a parallel.

Narrow and confined as Lathrop's plans were, a man of common prudence might have amassed wealth very rapidly, with half the labor he bestowed in this pursuit.

At the same time that he was instructing children at Calcutta, he wrote for the papers of the day, first in the *Hurcarrah*, and subsequently in the *Post*, both papers of extensive circulation in Calcutta; but these papers were so trammelled by governmental restrictions, that their tone and spirit were in a great measure lost. No freedom of remark, no boldness of discussion was ever allowed in their columns. Every paper, before it was printed for the public, was inspected by an officer of the government even to an advertisement; this fact fully appears from documents I have in my possession which belonged to Lathrop.

Born and educated in a country where freedom is ever approximating to licentiousness, and checked only by laws and not by men; where every matter, civil, religious or political, is canvassed without fear or even caution, it might be expected that he would be an ardent lover of liberty; but Lathrop shrunk from politics under the iron hand and argus eyes of despotic power, although every feeling of his heart was loyal, and every opinion he entertained sound and legitimate. These restrictions gave a different cast to his thoughts, and he indulged in the playful and sentimental sort of writing, in which he certainly excelled; but the magic of the nightingale's note is lost when the songster is confined in the cage.

I have seen several pieces of his written for the *Post*, which were of no ordinary character. The visit to the burial ground in Calcutta is full of deep and solemn reflections. Over the ashes and at the monument of Sir William Jones, his musings were truly sublime. Jones was a subject calculated to wake every exalted feeling, and worthy of the most transcendent praise, for he united every quality and accomplishment which dignifies man and consecrates the memory of genius. But a mind like Lathrop's, ever verdant with hopes, and ever overflowing with sympathies, could not be at a loss for objects

of admiration and love. Burning suns and despotic rule, which is death to patriotism, can never destroy the affections of the heart, for their nature is eternal.

Lathrop spent ten years in India, which had in them many pleasures, as well as many inconveniences. He passed a life of labor and fatigue; of luxury, splendor and ill health; but labor was compensated by gain, although pain followed enjoyment.

This was an eventful period of the world, and distance gave a deeper interest to every thing going on in his native country, and excited in him the strongest desire to return; and he did return, in the prime of life, with a constitution injured, but not broken; a literary man by profession and habits, with a judgment ripened by experience and reflection, with a patriotism increased by comparing his own with other countries, and a love of public justice enhanced by an acquaintance with political crimes.

It is worthy of remark, that his style at this time was more critically correct and less abounding in figures and epithets than it was before he went to India, but whether this should be considered a merit, I leave others to judge. Most persons by long residence in the East catch something of the oriental manner of writing: dwelling in those regions where nature is ever in the extremes, and where beauty and deformity forever exist in contrast, the mind becomes romantic, and fancy and fact are constantly commingled. The children of the Sun are never tame or dull, they are sometimes effeminate and feeble, but full of imagination and fire; their action is passion, and their repose is reverie. Every page of their literature is strewed with flowers of the brightest hues, and, as it were, perfumed with their essence. This singularity of retaining his original simplicity must be referred to early discipline, or some pertinacity of temper, which he was not thought to have possessed, for the greatest men and most elegant scholars have become enamored with the richness of oriental literature. "The all-accomplished" Jones seemed imbued with the aroma of every flower that he culled and transplanted to an English page. Some severe critics have said that his style was enfeebled by the fondness for ornament which he had acquired by his devotion to oriental learning: this may have been the fact, but wherever he loitered, wherever he revelled, or wherever he worshipped, by the waters of Helicon, in the bowers of the Muses, or on the banks of Jordan, he was still, in every place, an Apollo interrogating nature, developing science, and discoursing wisdom; or a holy seer establishing the true faith, proving the miracles of the gospel, which are at once the ornaments and evidences of divine revelation.

Lathrop was married once in this country, and twice in India. His first wife he married in 1793—she was the eldest daughter of Joseph Pierce, Esquire, of Boston, a lady of great beauty, talents and accomplishments, formed for the grace and pride of society; he loved her with a poet's fondness, and with more than a poet's constancy; and she returned his affection through every change of circumstances during her life. She had by him four children, but one only of them is now living. Lathrop was a delightful companion, and every one who knew him was fond of him. The little children kept memorandums of his kindness, for he sung their joys, or lamented their misfortunes, however trifling the incident, with parental fondness and feeling. He, indeed, mingled with all social beings that came in his way as far as they would permit him, and his soul seemed to diffuse itself into every pleasure or pain which came in his course, and frequently without necessity or reason. But notwithstanding his susceptibility, he was not fickle. It might be said of him, as was said of a greater man, but one with something of his cast of character, that "his enmities were placable, and his friendships eternal."

When he returned to this country in 1809, our commercial prosperity was on the wane, and our literary institutions of course suffered from the stagnation of business. He had resolved on his return to establish a literary journal on an extensive plan, but his friends gave him but little encouragement of the success of such a paper. Politics had at this time pervaded all ranks of people, absorbed

every other passion, and interrupted every other pursuit. The parties were rancorous, and nothing would answer for publication that was not highly seasoned with politics. He was not prepared by disposition or studies to enter into this contest, and there was nothing left for him to pursue, but the profession of an instructer, as he had been too long out of the practice of the law to do any thing among so many as he found at the bar. He taught a school in Boston for several years, wrote in the papers, delivered lectures on Natural Philosophy, and gave the public several songs and orations, for festive and masonic purposes; but all these exertions did but barely support him, and added nothing of importance to his literary renown; though these productions were frequently excellent. An occasional writer gains no permanent fame, if his works are given only to a newspaper, for every thing in them is fugitive. Tired of this kind of life, which from habitual carelessness was not followed with assiduity or punctuality, and of course was without much profit or celebrity, he formed a determination to remove to the south, expecting there to find congenial souls and a better fortune. At the cities of Washington and Georgetown, in the district of Columbia, he continued his profession of an instructer, a lecturer, and writer in the papers of the day. Through the influence of his literary friends he obtained a situation in the Post-office, which he held for some time, but these every day and precise duties grew irksome, and were sometimes neglected; but from the consideration of his pecuniary wants, his talents, and pleasant disposition; and above all, from the respectability and power of his friends and patrons, he was retained when others would have been dismissed for inattention. His manners too, were so bland, modest and affectionate, his principles so good, his heart so open and communicative, that he was loved and supported, when his negligence of duty, and carelessness of himself would have cast an ordinary man out of the pale of elevated society. His friends were sometimes distressed at his want of foresight and prudence, and grew cool towards him for a while, but such was the sweetness of his temper, and his freedom from envy, malice, or any bad passion, that he was received again into favor. The willingness to share his last shilling with the indigent and wretched, never left him, although he had been deceived, betrayed and fleeced a hundred times; and when he had nothing else, "he gave to misery all he had, a tear," and would share in the distress of any one when sympathy could not relieve it. For some time previous his nerves had been shattered and his spirits broken, and he sank into the embraces of death, on the 30th day of January, 1820—a victim of sensibility.

The evils which too often attend genius, are benevolence, generosity and confidence, carried beyond the dictates of a sound judgment. The heart warmed with kindness, and flowing with tenderness, is too easily wounded, and is lavish of its affections, until sad experience either shuts up its pores, deadens its pulses, or breaks it altogether. Unlimited confidence in mankind always ends in disappointment, and frequently in misanthropy. The man of feeling wastes much of his sustenance upon the ungrateful, and many of his best sympathies upon those who do not deserve them. If fortune changes and he wants assistance, he then finds with what tenacity others hold their wealth, and what false estimates he has made of character. He is frequently denied where he expected succour, and relieved where he anticipated oppression. Many sneer at his folly, from whom he hoped commiseration, and some spare his feelings, from whom he dreaded contumely and reproach. He has to make a new estimate of things, and learn to practise a more sturdy philosophy, if he intend to recover by struggling against the current that he finds pressing against him. If this be not done instantly, the unfortunate man is irretrievably lost; every day brings a deeper sickness to the heart, and every hour witnesses some portion of energy and fortitude gone. To one so situated, literature loses its power to charm, and philosophy her consolations. To him retrospection is full of reproach, and hope seems to have but little to do with the future. But after all, that men are unfortunate is not so much the fault of the unkind and hard hearts of others, as the

humane and good imagine. It is the fault of the sufferer himself; placed in straitened circumstances, he promises with the solemn intention of performing his obligations, but is unable. This leads him to subterfuges he despises, and to courses he disdains. Such a man would probably have sufficient fortitude to suffer, and bear up against his hard fate if he were alone, but the distresses of a wife and family, dearer to him than life, drive him to do almost any thing to relieve them. The friends of an embarrassed man do not always take the most proper measures to assist him, and he too often vents his spleen, when he should be struggling to retrieve himself. A broken heart is a more common death than is generally believed, for there are but few who can hold an aching bosom with one hand to prevent its bursting, and with the other fight a host of enemies, to gain a better fortune, and go on to victory, notwithstanding the world is more dreary than a December's night, until

"They win the wise, who frown'd before,
To smile at last."

These are not few—the victims of tribulation and misfortune are scattered in every path of life, and on every page of domestic history. There are a thousand brave souls, who fall on their swords in despair, to one who like Marius calmly contemplates his fallen fortunes on the ruins around him, and determines by decision, energy and perseverance, to force the fates to relent and make him prosperous. But it is idle to moralize too long—the subject of this sketch is beyond our wishes in this world, and out of the reach of any maxims, however wise. His virtues were numerous, and his faults few; the former were never so useful to the world as they might have been, and the latter, without injuring others in any considerable degree, shed all their baneful influence on himself.

The writings of Lathrop were numerous, but he published no work of any considerable extent or magnitude. All are worthy of being preserved. His philosophical lectures were sufficiently learned, and showed a classical and delicate taste. His orations and essays were neat, spirited and elegant—and his poetical compositions will bear to be read along with works of more celebrity, without apprehension from the comparison. I have looked over his productions with some attention, and think they are much better than they are in general considered. The following Ode, and other pieces selected from his works, if not of the first order of fine writing, are evidence of pure feelings, and a chastened and elevated imagination. This Ode was written for the 20th anniversary of the Massachusetts Charitable Fire Society.

If on the haughty warrior's brow,
Is plac'd the crown of deathless fame;
And earth's applauding lords bestow,
Their proudest titles on his name;
Oh say, shall glory's partial hand,
Withhold the meed to pity due,
When plaintive sorrow's grateful band
For wreaths to deck their patrons sue?

A tear-enamelled chaplet weave,
Round Bowdoin's venerated urn,
Where all the patriot virtues grieve,
And votive lamps of science burn,
Sweet charity on Russell's tomb,
A shower of vernal flow'rets throws;—
And bays of fadeless verdure bloom
O'er classic Minot's calm repose.

New-England's worthies grace the pyre,
Whence Belknap soar'd, forever blest!
Religion lights her hallow'd fire,
Where pious Stillman's relics rest;—
Why mourns the Muse with tearful eyes
While pondering o'er the roll of death?
Afresh her keenest sorrows rise,
With Emerson's departed breath!

Ah! Heaven again demands its own,
Another fatal shaft is sped,
And genius, friendship, learning mourn
The Buckminster among the dead!
To Eliot's tomb, ye Muses, bring
Fresh roses from the breathing wild,
Wet with the tears of dewy spring,
For he was virtue's gentlest child!

Ye sainted spirits of the just,
Departed friends, we raise our eyes,
From humbler scenes of mouldering dust
To brighter mansions in the skies.—
Where faith and hope, their trials past,
Shall smile in endless joy secure,
And charity's bleat reign shall last,
While heaven's eternal courts endure

The longest poem that I have found among his works, is called by him the "Speech of Cannonicus," a Narraganset chief. It describes the venerable sachem at the Council Fire, 1620, at the age of eighty-four, resigning his authority to his nephew. The Puritans of that day would not have been pleased to hear a pagan compared with a holy man of Israel; but at this time we may venture to extract his description of the chief.

At length—serene Cannonicus arose,
The patriarch sachem of the rude domain;
Such was the ruler, whom Jehovah chose,
To lead from Egypt's bondage the Hebrew train;—

So Moses look'd, when pleas'd, from Pisgah's height,
He viewed the promis'd land to Israel given,
When round his temples beamed celestial light,
And choirs of angels beckoned him to heaven

In his speech Cannonicus goes deeply into the mysteries of creation and providence, of which he introduces the best aboriginal traditions. The creation of the Adam and Eve of the Indian world, though injured by a few conceits, is certainly of no ordinary cast.

There, God retired, state, from mammoth's death,
Form'd man of oak, and quickened him with breath,
Moulding the wood according to his will,
Nine moons his plastic hands employed their skill.
Life's vital fount within the breast he plac'd,
And Reason's seat the brain's nice fabric grac'd,
Superior wisdom beaming from his face,
Proclaim'd the lord of earth and all its race.
Erect and tall the new commander strode,
In shape and motion, noble as a god.
His eye, the spirit intellectual fir'd,
His ample heart no vulgar joys desir'd,
For there, though chief, unrival'd and alone,
Had Emulation fix'd her throning throne.
Next, to complete th' Eternal's glorious plan,
Sweet woman rose, the sole compeer of man,
Her voice was soft as Philomela's note,
When evening's shades o'er flowery vallies float;
Her lips breath'd fragrance, like the breeze of morn,
And her eyes sparkled as the spangled thorn,
Ere glist'ning dews, by heat exhaled away,
Yield their mild splendors to intenser day.—
And silken skin adorn'd her waving form,
Whose glossy texture touch'd—so smooth—so warm,
Through the thrill'd breast diffused a rapt'rous glow,
And bade the blood with amorous phrensy flow.
She, like the skies, which gazing tribes adore,
Two beauteous orbs upon her bosom bore,
Whose charms united, bless'd continual view,
While heaven's lights singly deck'd the expansive blue,
Giving all seasons of man's life to prove,
The bliss of constant and unfading love;
Perfect she shone, the fairest and the best—
Of all God's works the paragon confest.
This pair, the parents of our race design'd,
The solemn rites of holy wedlock joined;
From their embraces, sprang forth at a birth,
Of different sex, two more, to people earth,
Thence, still proceeding, num'rous children smil'd,
And gladden'd with their sports the shady wild,
Till Paugattemisk held paternal reign,
O'er the throng'd forest and the busy plain.

The vision of the aged chief when "rapt into future times," is beautiful and splendid.

Thus heaven decrees: and swift elapsing time,
Shall here behold an empire rise sublime!—
Sachems, like gods, shall rule the orb of state,
And mighty chieftains wield the shafts of fate;
With energy divine shall law control,
And curb the intemperate passions of the soul,
But, to the honest and industrious prove,
Mild as the language of parental love.
And here shall art conduct her liberal train,
And agriculture fertilize the plain,
The mead shall bloom, and round the mountain pine,
In fond embrace shall wind the luscious vine;
The elder world her richest gifts bestow,
And scance bid her sacred olive grow,—
While commerce boldly shall unfurl her sails,
And court the polar and solstitial gales,—
Or like an eagle, fearless, speal her way,
On airy wings to greet the rising day,—
Or seek for treasures on the wave where night
Throws her dark mantle o'er the god of light!
Thus shall a foreign race achieve the fame,
And on our ruins raise a deathless name!

This poem was printed at the Hurcarrah press at Calcutta, and dedicated to the Marquis of Wellesly, but has never been reprinted in this country. I obtained it from his amiable widow, a lady whom Lathrop married in India; she is a daughter of a respectable English merchant in Calcutta, by the name of Bell, and has returned since the death of her husband, to her father.

The joys and sorrows of a man of feeling, the accidents in the life of a man of letters, are subjects, however painful, we seldom wish to finish, but dwell upon with a sort of melancholy pleasure. We weep at his misfortunes, pity his frailties, and gather up his virtues in his epitaph. In lingering around his grave, we draw a consolation from knowing that all his troubles are over, and that he is in the hands of an all-perfect and benevolent God. If we are wise, we reflect on the weaknesses of the dead, to shun them, and on their virtues to imitate them. The lessons of instruction from the tomb are spoken with a tongue, on which hang more than mortal accents. In this solemn musing we come to the just conclusion, that the happiest and best of us are beings of no certain destiny but death, and of no steadfast hopes but in another world;

"Poor wand'rers of a stormy day,
From wave to wave we're driven,
And Fancy's flash, and Reason's ray,
Serve but to light the troubled way—
There's nothing calm but heaven!"

John Ledyard, the traveller, was born at Groton, in the state of Connecticut, in the year 1737. Groton is a small village, rendered memorable for being the place where the traitor Arnold perpetrated the murder of Col. Ledyard, and others, in revenge for the detestation which the citizens of his native state expressed for his treason. The early education of John Ledyard was miscellaneous and rather extensive, but was wanting in system and correctness, for he had followed no guide in his studies, but took up and laid down his books at pleasure. To give more exactness and solidity to his pursuits, he was put under the care of Dr. Wheelock, the President of Dartmouth College; but the reverend teacher found it more difficult to govern Ledyard, than he did the sons of the forest. He had been at college only a few months, when he set out on foot for the Indian country, as the region around the lakes was then called. In this tour, he visited the Six Nations, and acquired considerable information in regard to their habits, manners, and language. The absence of Ledyard

from college was quite a mystery, for he had gone without communicating his intentions. Such a roving spirit as his, was not to be confined to college walls, or college rules; his studies were going on much better when he was in the woods, or among savage man. His pious friends had anxiously anticipated the time, when he would become a bright and shining light in the church; but he was not fitted for such an employment. Getting tired of college life, he cut down a large tree, near the bank of Connecticut river, dug out the log, and made a good canoe. It was fifty feet in length, and from the appearance of the stump, must have been more than three feet and a half wide. Taking in a stock of provisions, he commenced his voyage down the river. He was ignorant of the obstacles in its navigation, but overcame them all by his unconquerable spirit. He had turned his back upon college, and gladly escaped those restraints to which he never intended again to submit. After reflecting for some time as to the course he should pursue, and finding that the good divines in his neighborhood did not think him as yet sufficiently steady to be ordained to the work of the gospel ministry, he came to the sudden resolution of seeing the world as a mariner, and at once shipped for an European voyage. For several years he followed this profession, and visited the shores of the Mediterranean, that epic portion of the globe. With an extensive knowledge of ancient history, he pushed his inquiries into the modern state of these countries. This only fired his mind to see more of the world. When Captain Cooke was about to perform his last exploring voyage, Ledyard offered himself as a mariner in the enterprise. Cooke saw through the nature and character of the man, and made him a petty officer. From the journal of Ledyard, the public have received more minute knowledge of the natives of the South Sea Islands, than from the journal of Cooke, or any others that were kept by those with him. There is a vein of philosophical acuteness running through all Ledyard wrote, that marked him as a great observer, and deep thinker. He was indulged by Captain Cooke in his rambles, as he knew that Corporal Ledyard was a philosopher, and the information obtained through him, would be correct. Ledyard was with Cooke when he was slain, and has given the best account of that transaction that is extant, although it differs in many respects from the accounts given by others. On his return to England, he was noticed by several men of science. From England, he went to France; and there, through the friendship of Mr. Jefferson, had access to philosophers, and to libraries, such as he had not before seen. It is to the honor of Mr. Jefferson, that he was always a lover of learning, and a friend to learned men, and paid less regard to the rank which they had attained in society than is usual with distinguished men. It was mind and acquirements that he alone regarded, and he was as intimate with Corporal Ledyard, when making inquiries respecting his voyages and discoveries, as he would have been with Lord Mulgrave. From Paris, he travelled over northern Europe, and penetrated Russia to Siberia; making shrewd observations on all he saw. Ledyard was fitted for the great task he had undertaken. Restless and enthusiastic, as one that spurns control, he was patient and indefatigable in accomplishing his ends; and possessing a strong constitution, and well-formed person, he was capable of enduring great hardships, and of performing almost incredible labors. His resources seemed to increase as difficulties thickened; and he passed from danger to danger, as one possessed of a protecting charm. Objects which he had suffered every thing to see, he described as coolly as if he had not gone a step out of his way to behold them. Divested of prejudice, he spoke of the people of every country in the language of truth, and not according to the reception he might have received from them. In all his wanderings, he examined the natural features of every country; but his great study was man, in his political and moral relations. His thoughts he clothed in easy, elegant language, and sometimes his style is beautiful. Take, for instance, his praise of women: "I have observed among all nations, (says he) that women ornament themselves more than the

men; that wherever found, they are the same kind, civil, obliging, humane, tender beings; that they are ever inclined to be gay and cheerful, timorous and modest. They do not hesitate, like man, to perform hospitable or generous actions; not haughty, arrogant, nor supercilious, but full of courtesy, and fond of society; industrious, economical, and ingenious; more liable, in general, to err, than man, but in general also more virtuous, and performing more good actions than he. I never addressed myself in language of decency and friendship to a woman, whether civilized or savage, without receiving a decent and friendly answer. With man it has often been otherwise. In wandering through honest Sweden, frozen Lapland, rude and churlish Finland, unprincipled Russia, and the wide-spread regions of wandering Tartary, if hungry, dry, cold, wet, or sick, woman has ever been friendly to me, and uniformly so; and to add to this virtue, so worthy of the appellation of benevolence, their actions have been performed in so free, and so kind a manner, that if I was dry I drank the sweetest draught, and if hungry, ate the coarsest morsel with a relish."

In 1788, Ledyard commenced a journey to the interior of Africa. He had been sent on this expedition by Sir Joseph Banks, and others, in England, and expectation was greatly raised at his undertaking this perilous enterprise. Ten thousand circumstances, for ages past, had prevented the nations of Europe from knowing much of Africa; its sickly regions, its poisonous reptiles, its beasts of prey, and herds of savage men, had deterred the traveller from exploring these inhospitable climes. But these dangers only stimulated Ledyard to the enterprise; and his soul glowed at the thought of seeing what no traveller had seen for unnumbered centuries. But this was not permitted by that Being who had heretofore protected him in so many dangers, for his career was terminated at Grand Cairo, where he died, in November, 1788.

Richard Henry Lee was born January 20, 1732, in Westmoreland county, Virginia. He was sent to England for his education, and returned to his native country, quite a classical scholar. He entered political life as a member of the house of burgesses, in 1757. He was not immediately conspicuous; but he gained ground, and by degrees, began to hold a high rank among the orators and statesmen. Mr. Lee was sent to the continental congress, in 1774, and took a very decided part in that body. In June, 1776, he was selected to move the resolution, on the subject of independence, and made a memorable speech on the occasion. He was in congress for several years subsequent to the Declaration of Independence. After the federal constitution was adopted, he was appointed a senator under it; and in that capacity, did all he could to have that instrument so amended, as to meet the views of those who were fearful of injury to state rights. He died on the 19th of June, 1794. He was considered a fine orator, as well as a man of high acquirements; and was a polished gentleman in his manners.

Francis Lightfoot Lee was born in Virginia, in 1734, and received a domestic education. He had for an instructer, Doctor Craig, a fine scholar, and under him he acquired knowledge with great rapidity. He was a member of the house of burgesses, and became an active politician. In 1775, he was a member of the continental congress, and did what became a patriot in that difficult season. He was brother to Richard Henry Lee, and acted with him on all great occasions. He returned to private life as soon as his services could be dispensed with. He was attacked with pleurisy, of which he died;—his wife expired shortly after him, of the same disorder. Having no children, his property was bequeathed to one of the sons of his brother.

Elkanah Leonard was born early in the eighteenth century (perhaps in the year 1708) at Middleborough, in the county of Plymouth, Massachusetts. His education was limited to a common school; but nature had been very liberal in the endowment of his mind. He possessed strong powers of investigation, a sound judgment, and an uncommon brilliancy of wit; and his inventive powers were not surpassed, if equalled, by any of his time.

With this limited literary education,

he applied himself to the study of the law, in which, notwithstanding his disadvantages, he made astonishing progress. His memory was so retentive, that whatever he read was safely deposited in the cabinet of his recollection. He soon possessed himself with all the legal ideas contained in the treatises of law which were then extant; and such was his fortitude of mind that on his first appearance at the bar he would manage the most difficult cases without any apparent timidity. His assistance in the *defence* in criminal prosecutions was much sought for, and his abilities were never more conspicuous than in those defences; and his success was in proportion to his exertions. It was sometimes thought that a good conscience could not justify all his strenuous exertions. He soon attracted executive and legislative notice. At an early age he was by the Governor appointed a major in the militia in the regiment to which he belonged, and the writer of these sketches recollects that in perusing an old volume of the journals of the house of representatives, between the years 1730 and 1740, that when a committee of the house was appointed to manage an intricate cause in which the province was engaged, that they were instructed by the house to consult Elkanah Leonard, to take his opinion and engage his assistance. But the fate of human greatness is very precarious. While he was thus "in the full tide of successful experiment," his mind, as capacious as it was, without any apparent cause, became so far deranged, as to render him unfit for any kind of business; and in this situation, though never very frantic, he remained to the close of his life in a very advanced age. This malady of the mind did not extinguish his attachment to legal investigations; he would sit half a day at a time in perusing Coke's Institutes, his Reports, and the ancient sages in the law with much attention and apparent satisfaction. The writer of these sketches recollects, that when a boy (August, 1774) he called on a son of this gentleman with whom he lived. The old gentleman interrogated him, who he was? where he came from? and on being informed, he began an inquiry concerning a number of people who had formerly been his clients. He would state their cases apparently with correctness, and the fate of these actions and the pivot on which they turned; and it gave him great apparent satisfaction to relate his success. He was much famed for the accuracy of his forms of declarations, which at that time was a very important item in legal acquirements, and generally the last request of the client to his attorney was, "*Pray make it hang.*" He was the first attorney in the town of Middleborough, and the only one that had an office there until James Sproat opened an office, about the year 1788. There are now three at that place.—*Holmes.*

Francis Lewis, one of the New-York delegation in Congress when the declaration of independence was made, was born in Wales, in 1723. He was partly educated in Scotland, and then sent to Westminster, where he became a good classical scholar. In London he became an apprentice to a merchant, with whom he continued until he was of age. He then left England for America with handsome prospects, and set up business in New-York. He was agent for the British colonies in 1756, and was taken prisoner and carried to France, from which country on his exchange he returned to New-York. He was a lover of liberty, and stood foremost amongst the sons of freedom. In 1775, he was sent a delegate from the provincial congress of New-York, to the continental congress, and was there when the declaration of independence was made. He continued in that body for several years afterwards, and rendered great service as a commercial man. He suffered much for his patriotism, the British having destroyed his property on Long Island. He had, however, the satisfaction of seeing the country prosperous, though he was not. He died on the 30th of December, 1813, in the 90th year of his age.

John Blair Linn, D. D., a poet and highly gifted pulpit orator, was the eldst son of the Rev. William Linn, of New-York, and was born in the state of Pennsylvania, in the year 1777. He was educated at Columbia College, and graduated at the age of eighteen; and entered the office of Alexander Hamilton as a

law student, but soon changed his studies. After mixing for a time with the gay and fashionable of the city, he wrote a tragedy for a stage, which was several times enacted with great applause. He then left this pursuit for the study of divinity, as a course more congenial to his feelings, and put himself under the instruction of Dr. Romayne, of the reformed Dutch church. In the summer of 1798 he was admitted to preach, and was soon after settled at Philadelphia, as a colleague to the venerable Dr. Ewing. In the year 1800, he was taken with a severe illness, which shattered a constitution previously very delicate; but by travelling, and great care, he survived until the 4th of August, 1804, when he expired by the breaking of a blood vessel. His days were short, but in them, short as they were, he had acquired a high reputation for ripe virtues, and for rising talents. He possessed a classical taste, and had made respectable acquirements in ancient learning. He wrote many things well and some very well. "The Powers of Genius" from his pen holds a high rank amongst American poetry, and has been honored by a splendid edition in England. His "Valerian" is by many thought a finer composition than the "Powers of Genius;" it certainly contains some passages of great beauty. Just before Dr. Priestley's death, Linn had a controversy with the sage, which raised the reputation of the young divine with the public, and particularly with that portion of them whose religious tenets were the same as his own. In this controversy, Linn indulged in some asperities, which after the heat of composition had passed, were regretted by him, and he wrote an apology to Priestly for the offence; but before the letter reached the place of destination, the old man had gone where insults, apologies, or praise, can never reach. Linn was a pious and popular preacher; he dwelt upon the loveliness of Christianity with great feeling and sincerity. His language was felicitous, and his voice plaintive and sweet. What added greatly to the interest he excited, was, that his hearers entertained the impression, as they hung on the words that flowed from the speaker's lips, that he must soon test the truth of his own doctrine, as the pale hand of death was evidently upon him, and seemed only to wait until his strain of eloquence should cease, to bear him gently down to the grave. The Trustees of the University of Pennsylvania made him a Doctor of Divinity, at an earlier age than it was ever given to any other individual. He whom the muses inspired, and the wise and good honored and applauded, should be held in remembrance by his countrymen.

Philip Livingston, descended from a respectable Scotch family, and was born at Albany, January 15th, 1716. He was educated at Yale College, and graduated with the class of 1737. He became a merchant in New-York after having his Alma Mater; and as there were but few well-educated merchants in Wall-street at that time, he was soon quite at their head; and of course had offices at his command. In 1754 he was an Alderman of the city of New-York, and after serving in this capacity for four years, was sent to Albany, as a representative of the city. In this body he soon became a leader, and directed its attention to the great interests of commerce; New-York being then behind Boston and Philadelphia in her exports and imports. He was one of the committee of correspondence, with the agent for the colony in England, the celebrated Edmund Burke; and his letters abound in information and critical remarks. Mr. Livingston was in Congress in 1776, and affixed his name to the declaration of independence, for which he was a strenuous advocate. He was a member of the senate of New-York, on the adoption of the state constitution; after which, under the provisions of that constitution, he was elected a member of Congress: but he was not long permitted to devote himself to the service of his country, for on the 12th of June, 1778, he died, with *angina pectoris*, or the dropsy of the chest, often twin messengers of death. He was a warm and fearless patriot in severe times, when thick clouds enveloped our political horizon.

Robert R. Livingston, L. L. D., chancellor of the state of New-York, was a man who filled a great space in the eyes of the American people. We made no small effort to get a pretty full account of this great

statesman, but could find none so ample as that given by Doctor John W. Francis, a gentleman well known in the literary world as well as in the annals of medicine. This memoir of Mr. Livingston is contained in an address delivered before the Philolexian Society of Columbia College at their anniversary, June 3, 1831, and the extract is made by permission. The sketch is historical, discriminating, neat, and beautiful.

Robert R. Livingston was descended from a family of historical celebrity in the annals of Scotland. Kings, regents, and nobles appear in the line of his ancestors, and probably no individual ever emigrated to the new world who could boast more numerous or more distinguished evidences of rank and title. Without dwelling with unnecessary minuteness on this portion of his history, I may be permitted to observe that James Livingston, in the middle of the fifteenth century, was appointed Regent of Scotland during the minority of James I.; that his grand daughter married Donald, king of the Hebrides, one of whose descendants is celebrated by the immortal pen of Sir Walter Scott, in his poem, the Lord of the Isles.

The titles of Earl of Newburgh, Earl of Linlithgow, Earl of Callander, and Earl of Livingstone, given to several distinct members of this family, attest its standing and importance in the state, and adds lustre to the honors of its name. Nor were they undistinguished in the early literature of their native country; and the name of Rollock, of kindred origin, occurs at the close of the sixteenth century as first principal of the celebrated University of Edinburgh.

Lord Livingstone was the common ancestor of that branch of the Livingstons, which emigrated to this country in the middle of the seventeenth century. He was hereditary governor of Linlithgow Castle, in which Mary, Queen of Scots was born, and in which she was placed for safety during the invasion of Scotland by the Duke of Somerset. His daughter was one of the four ladies who attended this princess to France as her companion. His great grandson, John Livingston, an eminent, learned and pious minister of the Gospel, emigrated to Rotterdam in 1663, the victim of religious persecution, and was one of the commissioners of Scotland in the negotiations which eventuated in a general peace, and in the transfer of the colony of New-York from the states of Holland to England.

Robert Livingston, his son, about the period of his father's death in 1678, emigrated to America; and in 1686 obtained a patent for the Manor of Livingston. The banks of that noble river on which it is situate attest in its ornaments their taste and opulence. He was a member of the convention at Albany in 1689, which threw off, on the part of New-York, the oppressive government of James II. In a visit to England, he held a conference with King William, Lord Chancellor Somers, and others, and prompted the enterprize against the pirates who then infested various parts of the American coast. The agent employed to effect this purpose proved treacherous to the trust, and, as is supposed, with the connivance of Robert Fletcher, the governor of the state. This agent afterwards became chief among the pirates, and is known in the popular traditions of the country by the name of Capt. Kidd. The grandsons of Robert were, Philip Livingston, one of the signers of the declaration of independence, on the part of the state of New-York; William Livingston, governor of New-Jersey, known as a poet of high order, and still more estimable for his vigorous defence of the civil and religious rights of the colonies in council and by the pen. Robert Livingston's great grandsons were, John H. Livingston, the father of the Reformed Dutch Church in America, and president of Queen's College, New-Jersey, Brockholst Livingston, late one of the justices of the Supreme Court of the United States, Edward Livingston, formerly Mayor of this city, a member of the House of Representatives from the district of New-York, member from Louisiana, in the United States senate, and recently appointed secretary of the department of state, and Robert R. Livingston, the subject of our present discourse. It is in our own country that the talents of this highly gifted family have had an ample field for their display and exertion. The

colonial history of our state records their elevated standing in its political affairs, and their noble resistance to those measures of oppression which arrived at their height during the early reign of George III. and which resulted in the independent sovereignty of America.

Chancellor Livingston was born in the city of New-York, in 1747, and was educated in King's, now Columbia College, where he was graduated in 1764. At this time the college was in its infancy, having been founded only ten years before, by a munificent grant of land on which it is now situate, from the corporation of Trinity Church; by the donations of pious individuals, and by funds from the venerable society for the propagation of the gospel in foreign parts. Even at this early day and at the commencement of its career, its faculty held at least an equal rank in ability and learning with the highest and best endowed seminaries in America. To Cutting, a scholar of Cambridge, England, and to Cochran, an alumnus of Trinity College, Dublin, she is largely indebted even at this time for the superiority which she may justly claim in the cultivation of classical literature. Nor have the fruits of this endowment been buried or lost to the world. The genius and accomplishments of her sons have amply justified the foresight and liberality of her founders. Numbers considered, no institution has more just reason to boast of the glory reflected upon her by services rendered to the public. In justice to this assertion, let me advert to the names of Hamilton, the infant assertor of his country's rights, the chief framer of your national constitution, and the founder of your funding system; Jay, the first chief justice of the United States, the negociator of the treaty of peace by which Great Britain assented to the independence of her former colonies: Morris, the eloquent orator, and one of the founders of your state constitution; Harrison, the able jurist and scholar; Jones, formerly Chancellor of the State, at present Chief Justice of the Superior Court; Provost, the first Bishop of the Protestant Episcopal Church of the State of New-York; Moore, his eminently learned and pious successor, and the fourth president of Columbia College; the present eminent and excellent Diocesan in the Episcopal office, whom I am proud to call my class-mate at College, and my associate in our Philolexian exercises; Washington Irving, who so ably represents American genius in the republic one and indivisible of English literature; and who has recently entwined his own reputation with that of the daring discoverer of his native country. Mason, long the acknowledged head of the Presbyterian divines of this country; Clinton, the intrepid projector of your canal policy. I might add a host of others, whose characters are at once the pride and property of their countrymen. "Draw at a venture," says the venerable Dr. Cochran, formerly a professor in this institution, "from the oldest and illustrious seminaries of England and Ireland the same number of names as we had on our books, and I will venture to affirm that they would not be superior to such men as Governor Clinton, Chancellor Jones, Rev. Dr. John M. Mason, and some others.' These, gentlemen, are the rich and enduring rewards of the legislative wisdom of that assembly, which in 1753, gave birth to Columbia College.

The present list of the graduates of this school records one thousand names, distinguished in every variety of service to the church and state.

Robert R. Livingston entered upon the study of the law in this city in 1765, under the direction of William Smith, the historian of New-York, at that time an eminent counsellor of law, and subsequently Chief Justice of Canada. Shortly after having obtained his license in that profession, he was appointed recorder of his native city. The trying question of the rights of the British parliament, in which we were unrepresented, to impose exactions on our citizens, then first began to be agitated, and the subject of our memoir as well as his illustrious father were both ejected from their official stations, the latter as one of the justices of the court of Oyer and Terminer, for adherence to the rights of their countrymen. It was early predicted that these rights could be successfully asserted only by the sword; but, remonstrance after remonstrance, petition after petition was presented to a ministry, attentive only to their passions and

needless of the rights of others. The colonies, separated from one another by a thousand feelings and prejudices, soon exhibited a united resolution to resist these pretensions with manly effort. The official stations of Mr. Livingston and his son did not prevent them from joining with the great body of their countrymen in resisting claims so unjust and oppressive. In the same year, the gallant Montgomery, recently connected by marriage to a sister of the Chancellor, fell on the plains of Abraham, fighting with the valor of his native, in defence of his adopted country.

In return for royal persecution, Chancellor Livingston was rewarded by popular favor and the confidence of his country. In this war of principle, now commencing, Massachusetts, New-York, and Virginia represented not imperfectly the entire population of the American colonies. The first was settled by emigrants chiefly from England, puritans in religion and in politics. Virginia was colonized by an adventurous population who transferred with them the rights and feelings of Englishmen. The central colonies, of which New-York was the fairest representative, had emigrated from the states of Holland which preceded even the English in the assertion and vindication of the rights of conscience, and even during a struggle of eighty years wafted their commerce to every region of the earth.

This various population united for the most part in one spontaneous spirit of opposition to the claims of parliament; yet in New-York, her magnificent but unprotected harbor, and frontier exposed to the depredations of the ruthless savage, laid her open to the naval force of Great Britain, and paralyzed for a time the efforts of her patriots. Virginia was foremost in resisting the odious stamp act, which under a deceitful vizor concealed the arrow of destruction. In Boston, the fatal poison lurked in the tea chest. In the vicinity of this town, the blood of Englishmen and Americans first mingled in hostile conflict. The names of George Clinton, John Jay, Philip Schuyler, and Robert R. Livingston are sufficient evidence that this state was not behind her elder sisters in devoted ardor and patriotism. These noble champions of our cause justly deemed their power and influence pledges of fidelity to the people, which it required their highest efforts to redeem.

In the immortal Congress of 1776, Mr. Livingston represented the feelings and interests of the people of the state of New-York. At length the persevering efforts of the crown against the rights of the colonies, produced that memorable resolution of their representatives, to dissolve forever all political connexion with the parent country: the committee appointed to justify to the world the reason of our conduct, and claim to its good feelings, consisted of Benjamin Franklin, Roger Sherman, John Adams, Thomas Jefferson, and Robert R. Livingston. In this consecrated assembly, the zeal and patriotism of Mr. Livingston were universally acknowledged.

I need not dwell for a moment on the awful responsibility assumed by your representatives. Suffice it to say, that, as when the elder Brutus announced to the Roman people the outrage committed by Tarquin, and invoked their bravery and patriotism, our virtuous ancestors responded to the call, and with their hearts and votes united in pledging their lives and fortunes to maintain their sacred rights. When, at the recommendation of Congress, each state proceeded to frame a constitution of government, Mr. Livingston was elected a member of the convention of New-York, and was the chairman of the committee who presented the draft of that instrument which, as subsequently adopted, formed an era in legislation, and may be fairly pronounced the most judicious scheme of polity then known to the world.

On the formation of the Department of Foreign Affairs, in 1781, under the articles of confederation, he accepted the appointment of Secretary, and served in that capacity with great diligence, promptness, and impartiality, until 1783, when, on retiring from office, he received the thanks of Congress, and an assurance of the high sense they entertained of the ability, zeal, and fidelity with which he had discharged the important trusts reposed in him. The diplomatic correspondence of the revolutionary war, which has just appeared, may be here referred to as

documentary testimony to his cabinet services in our great contest.

Mr. Livingston was appointed Chancellor of the state of New-York in 1783, being the first who held that office under the state constitution; and he continued in this highest legal distinction in the state until his mission to France, in 1801. For his ability and fidelity in the discharge of his judicial duties, I appeal to the learned members of the profession. No published documents record the evidences of his laborious research and accurate discrimination. But I am authorized to assert, on the testimony of a most distinguished successor to his office, that the auguet tribunal, whose justice he dispensed, though since covered with a halo of glory, never boasted a more prompt, more able, or more faithful officer.

When at length the valor of our ancestors had borne them successfully through the revolutionary contest, and redeemed those pledges which had been offered on the altar of their country, another and a still more arduous task remained. In vain had our patriots moistened the soil with their blood, had our countrymen been left the victims to their own tormenting feuds and passions. The bond of union which united us during the period that tried men's souls, was almost rent asunder during the trials of peace. The legislature of Virginia, so early as in 1785, at the instance of Mr. Madison, who then first gave presages of his future greatness, had appointed commissioners, with a view to form commercial regulations for the general control of the states. Commissioners from several states met accordingly at Annapolis, the following year. From the want of adequate powers they separated without effecting the object for which they were delegated. In 1787, on the recommendation of the Massachusetts delegation, composed of Francis Dana and Rufus King, was convened, at Philadelphia, that memorable assemblage of heroes and statesmen, who met to devise a plan of government which should convey the blessings of liberty to, I trust, the latest generations.

From New-York emanated the plan of that national compact which now binds these states together. Hamilton and Madison were its principal authors. To the former is chiefly due the honor of projecting that happy compromise between the rights of sovereignty and of individuals, so ably expounded on a recent occasion, by a successor to his reputation and glory.* The good sense of our people ratified it by their suffrages. Let it not be deemed irrelevant on this occasion, if I advert to that excellent series of papers written in defence and in illustration of the constitution. These papers were first presented to the public from the press, in this city: in all human probability they were among the most efficient causes of its adoption. The Federalist may be equally consulted by the classical scholar, for the elegance of its language, and by the statesman, for its profound exposition or polity. It is the best vindication extant, of the principles of a republican government, and ought to be thoroughly understood by all who exercise the privileges secured to us by the great constitutional charter of which it is the luminous interpreter.

Of the convention, which assembled at Poughkeepsie, in 1788, Chancellor Livingston was one of the most efficient members, and prevailed in effecting its ratification by his native state; thus securing its adoption by the United States. We are now in the full enjoyment of its blessings. May no vaulting ambition on the part of our statesmen, or madness on the part of our people, ever put it in jeopardy for a moment. May it never be rendered oppressive by too liberal a construction of its powers: may it never be nullified by metaphysical refinement.

In April, 1789, this city was the scene of one of the most solemn ceremonies recorded in the annals of America. The great Washington having conducted, to a successful issue, the momentous contest for independence, and the sages of our nation having elaborated a constitutional code of government, all eyes were directed to the illustrious hero, whose wise and sagacious counsels, no less than his valor, pointed him out as the most competent, under Providence, to guide the vessel of state in safety. When that venerated patriot, agreeably to your wishes,

* Webster, in the Senate.

was about to enter upon the duties of the highest office known to freemen, Chancellor Livingston became the witness of his solemn appeal to heaven, that the laws should be faithfully administered.

The appointment of Chancellor Livingston to the court of France, was one of the first acts of the new administration of Jefferson. Napoleon Bonaparte, the youthful conqueror of Italy, was at this time First Consul of the French republic. At his court, which rivalled in magnificence and splendor the most august courts of Europe, the Chancellor at once conciliated the good feelings of that extraordinary man, by the amenity of his manners, and promoted the best interests of his country, by persevering and enlightened exertions. During the short-lived peace of Amiens, Paris was visited by the refined and intelligent from every part of the civilized world; and here the Chancellor found leisure, amidst the duties of official station, to cultivate those ornate studies, for which that capital furnishes every facility. On the day of a great levee, which assembled at the Tuilleries, says the biographer of Fox, the numerous representatives of nations and strangers from every country, to pay their respects to the First Consul of France, now established as the sole head of the government, the American ambassador, Mr. Livingston, plain and simple in manners and dress, represented his republic with propriety and dignity.

In that important negociation with the government of France, which resulted in the acquisition of Louisiana, Chancellor Livingston was the prominent and efficient agent. Its transfer by the Spanish government to France, in 1802, had excited the most lively feelings of the American republic. By this unexpected measure, they were made the neighbors to a power, which, under the giant energies of the First Consul, threatened, in case of rupture, the very existence of our republic. Immediately preceding the entrance into it of the French authorities, the Spanish powers prohibited the inhabitants of the western country the use of New-Orleans as a place of deposit for their productions, contrary to the treaty with his Catholic majesty. A unversal spirit of indignation animated the American people; and there were not wanting those who recommended an immediate recourse to arms. The discussions on this question in the congress of the United States elicited debates, in which De Witt Clinton and Gouverneur Morris, representatives of this state in the American Senate, sustained the different views of the rival parties of this country. In pursuance of the sounder counsels of those who urged the propriety of negociation and peace, the Executive of the United States deputed, as minister to the Court of France, the late President Monroe; but previous to his arrival, Mr. Livingston, in an elaborate and interesting memoir, addressed to the French government, had prepared them for the cession of the greater part of Louisiana. To further this great object, he had also personally importuned the First Consul.

The result of Chancellor Livingston's efforts was prompt and successful. On the 5th of April, the First Consul announced to his bureau of state, his determination to sell whatever of American territory he had obtained from Spain. Seven days afterwards, Mr. Monroe arrived in Paris, and gave the consent of the American government to this negociation. The menacing posture of affairs between France and England facilitated the objects of these arrangements, and resulted in the transfer of the entire country to the American republic, for a sum less than was adequate for the preparation of a single campaign.

By this important treaty, contrary to the anticipations of the timid or interested, the confederacy of our states was placed on an invulnerable basis; territory was added to our country, nearly equal in extent to that of the original states of our union; and the blessings of free government secured to millions, who had otherwise groaned under the vassalage of foreign dominion. The vast deserts of Louisiana are daily becoming the cheerful residence of an intelligent and Christian population, with American blood flowing in their veins, and beating responsive to republican feelings; and the field of New-Orleans is now added to those of Bunker Hill, Stillwater, and Chippeway,

as trophies of American valor and patriotism.

After the signing of this eventful treaty, the three ministers arose, says one of them, the Count Marbois, when Mr. Livingston, expressing the general satisfaction, said, with prophetic sagacity, "We have lived long, but this is the noblest work of our whole lives. The treaty which we have just signed has not been obtained by art, or dictated by force; equally advantageous to the two contracting parties, it will change vast solitudes into flourishing districts. From this day, the United States take their place among the powers of the first rank; the English lose all exclusive influence in the affairs of America. Thus one of the principal causes of European rivalries and animosities is about to cease. The United States will re-establish the maritime rights of all the world, which are now usurped by a single nation. These treaties will thus be a guarantee of peace and concord among commercial states. The instruments which we have just signed, will cause no tears to be shed; they prepare ages of happiness for innumerable generations of human creatures. The Mississippi and Missouri will see them succeed one another, and multiply, truly worthy of the regard of Providence, in the bosom of equality, under just laws, freed from the errors of superstition and the scourges of bad government."

The consequences of this act did not escape the penetration of the First Consul. "This accession of territory," said he, "strengthens forever the power of the United States, and I have just given to England a maritime rival that will sooner or later humble her pride."

The official duties of Resident Minister at Paris, did not prevent Chancellor Livingston from bestowing his attention to those objects of taste congenial to his feelings, and beneficial to his country. To the American Academy of Fine Arts, established in New-York, in 1801, he added the excellent collection of busts and statues which are now the boast of that institution, and was instrumental in procuring, from the liberality of the First Consul, its rich paintings and prints. He continued through life devoted to its interests, and was for many years its chief officer. To the transactions of the Society for the Promotion of Useful Arts, established in 1793, chiefly through his exertions, he contributed many appropriate papers, and, during his residence abroad, enriched our agriculture with the improvements of French husbandry.

The last effort of his pen was his Paper on Agriculture, written but a few days before his fatal illness. In this spirited essay, he vindicates the climate, soil, and capabilities of his native country. He shows the value of horticultural labor, and demonstrates the reciprocal connexions between agriculture and manufactures. The inherent fertility and the indigenious resource of the country, are the themes of his admiration and eulogy. He was among the earliest, with Judge Peters, to employ gypsum as the means of fertilizing soils; and the introduction of clover, and a better breed of domestic cattle, attest his vigilant and enlightened zeal.

One other benefit conferred on mankind, will, of itself, convey the name of Chancellor Livingston to the remotest posterity; his co-operation with Robert Fulton, in effecting the successful application of steam navigation, the most important improvement since the invention of printing, and only inferior in lasting consequences to mankind. By it the great community of nations is bound together by commercial and social intercourse; the arts of war are made to yield to the profitable pursuits of peace; universal civilization, universal education, and the benign influence of religion conveyed to every land.

"The connexion between Livingston and Fulton," says the lamented Clinton, "realized to a great degree, the vision of the poet. All former experiments had failed, and the genius of Fulton, aided and fostered by the public spirit and discernment of Livingston, created one of the greatest accommodations for the benefit of mankind. These illustrious men will be considered, through all time, as the benefactors of the world."

The leisure hours of Chancellor Livingston were devoted to every variety of science, arts, and literature. The heroic authors of antiquity, Homer and Virgil, Demosthenes and

Cicero, were among those which contributed to improve his taste and expand his thought and feeling. His historical researches were various and extensive. All this was not effected without unremitting industry. Every interval of time afforded from the duties and cares of public life, was devoted, with scrupulous fidelity, to add to his stores of knowledge. Like the Chancellor D'Aguesseau, in variety of pursuit, he found that relaxation which others seek in pleasure and amusement.

The style of his oratory was chaste and classical, and of that persuasive kind which the father of poetry ascribes to Nestor. All who were witnesses, testify to the mute attention with which he rivetted his auditors. But he chiefly delighted in the pathetic, and often, by his appeals to the sympathies of his hearers, counteracted the most powerful prejudices. His acknowledged integrity and patriotism doubtless added force to all he uttered. Franklin termed him the American Cicero: in him were united all those qualities which, according to that illustrious Roman, are necessary in the perfect orator.

After a life, every portion of which was devoted to the benefit of his fellow man, he paid the last debt to nature, at his seat, at Clermont, on the 26th of February, 1813.

Thus it appears, from this imperfect tribute, that the late Chancellor Livingston was an active agent in the most momentous events that have influenced the destinies of mankind. Of the congress of 1776, which resolved that these states were free and independent, he was a distinguished member, and belonged to that committee which framed the declaration of our grievances and rights,—and which will transmit their names to the latest posterity: of the convention of New-York which formed the constitution of our state—the best devised scheme of polity known to the world; of a subsequent convention, which ratified the constitution of the United States, devised by the wisdom of Hamilton and Madison. The important actor in a negociation, which doubled our country in extent, and, I trust, has rendered it forever secure from foreign intrusion; the coadjutor in that noblest of all improvements in mechanics, by which time and space are annihilated—the invention of steam navigation.

In Mr. Livingston, to the proud character of integrity, honor, and disinterestedness, were added the mild, yet ennobling features of religion. An inquiring believer in its truth, an exemplar of its gentle effects on the character, he daily sought its consolations, and strengthened his pious resolutions in the rich inheritance it promises. He was devoted to the Protestant Episcopal Church, from an enlightened preference of its doctrines and discipline, without hostile feelings to those who trust to other guides in religion than Chillingworth and Hooker.

Chancellor Livingston, at the time of his death, was in the 66th year of his age. His person was tall and commanding, and of patrician dignity. Gentle and courteous in his manners, pure and upright in his morals. His benefactions to the poor were numerous and unostentatious. In his life without reproach, victorious in death over its terrors.

Thomas Lynch was born in South Carolina, on the 5th of August, 1749. After receiving the rudiments of education, he was sent to England to finish his studies. He passed from Eton to Cambridge, and received the honors of the University in due course. He graduated with high reputation, and took his tour on the continent, from which he returned to England, and commenced the study of law In 1772, he returned home, an accomplished gentleman. Such men were wanted; and he was soon called to exercise the talents he possessed. He commenced his public career as a soldier; but was taken from the camp to serve in Congress, of which body he was a member when the Declaration of Independence was signed. From ill health he left South Carolina for the West Indies, with his wife, but the vessel in which he sailed was never heard from. He was a young man of high promise.

Richard W. Mead, whose name has been extensively known in the United States, and particularly as a claimant for a large sum on the American government under the Spanish treaty for the cession of the Floridas, was born in Philadelphia, in 1771. He was the son of a merchant of that city, and grandson of

the celebrated merchant Fitz-Summons, who, with Stephen Higginson, a merchant of Boston, was in the first congress; and they were the principal members who first arranged the details of our revenue laws, for the benefit of the country. Mr. Mead entered into commercial business in Philadelphia, where he at first met with success, and then with some sad reverses of fortune; and then pushed his enterprise into Spain. He was there when the king fled and went to France, and was detained as a prisoner.

In a time of public distress, he was a commission merchant, and advanced large sums for the support of the armies of the Cortes. By misunderstandings, and political intrigues, he was on the restoration of the king, incarcerated for several years. For many months, he expected every hour to be called to the scaffold, although he had committed no crime; but at length, by the intervention of the government of the United States, he was released, and his accounts against the authorities of Spain liquidated; and, as is fairly proved by the president of the Cortes, and our minister at that time, Mr. Forsyth, were intended to be included under the treaty; yet the commissioners, fully acknowledging the justice of his claim, refused to consider it under their commission, and referred him to congress for his indemnity. For several years he prosecuted his claims before that body with energy and good faith, but the amount was startling and he did not succeed in having it allowed, although a great majority confessed that it was a just claim against the United States, or against the government of Spain. Long imprisonment had undermined his once vigorous constitution, and hope deferred, broke his heart. He died in June, 1828, before he had brought his business to a close. One night in his prison, when he expected the next day would be his last, he leaned his head upon his hand, and calmly prepared himself for his fate. His hair was then a brilliant chesnut color—scarcely had a gray hair appeared; but in the morning, to his astonishment, the very print of his fingers were marked in his hair by almost a perfect white. Soon after this his hair all turned gray, then white; but during the night we mention, he had felt a perfect resignation to his fate, and thought he had suffered less than he had many times before. Philosophers must settle the cause—we only state the fact as we heard it from his own mouth, and he was a man of the most unquestionable veracity. In society, Mr. Mead was a person of cultivated mind, of the most gentlemanly deportment, and of finished manners. In all his dealing, he was above all the little affairs of traffic, and seemed made for great business. He suffered much from the gout, but never repined—much from the ingratitude of men,—but he always appeared as one who, *in suffering all had suffered nothing,—his blood and judgment were so well commingled.* We trust that a just government will, in due time, liquidate his claim, now belonging to his family, and make them happy, if he is beyond the reach of courtesy or justice. Hundreds now living can bear testimony to his noble generosity, and some to his friendly munificence. His acquirements were extensive—his mind vigorous and exalted. In the dark hours of the Spanish struggle for emancipation, he was the friend of the rights of man, and without a particle of fanaticism, was always the champion of liberty. The generous and the great often pass away in the sweeping tide of misfortune, while the mean and contemptible, crab-like, cling to the rocks and the shore, and are kept alive.

Edward Miller. In recording the life and character of this eminent physician, we derive our materials not from the uncertainty of report, or of tradition, but from personal observation and experience, such as habits of daily intercourse have furnished us: the authenticity of our materials may therefore be depended upon; and the opinions we express are what our judgment dictates, so far as our judgment is competent to direct us. There appears to be peculiar propriety in holding up the character of Dr. Miller for general imitation. Our country has yet produced but few in whom were to be found more eminent talents as a physician, and more general information as a scholar, united with unblemished integrity of conduct, and the

greatest urbanity of deportment. May the humble and unadorned narrative of his life awaken the sensibility and rouse the generous emulation of youth, to imitate his virtues and profit by his example.

Edward Miller was born at Dover, in the state of Delaware, on the 9th of May, 1760. He was the son of the Rev. John Miller, and of Mary Millington, his wife. His father bore the relation of pastor to the Presbyterian church in that place, with exemplary diligence and piety, for more than forty-three years. His parents had nine children, seven sons and two daughters; of whom, only one son and one daughter now survive. Of his six brothers, two died in infancy. His eldest brother, John, who was bred a physician, and who entered the American army as a volunteer surgeon, in 1776, died in February, 1777, in the twenty-fifth year of his age, while on his way from the camp in New-Jersey to pay a short visit to his parents. His next eldest brother, Joseph, who was a counsellor at law, and more than once a member of the legislature of his native state, died at Wilmington, in Delaware, of the yellow fever, in September, 1798, a few weeks after his marriage, and in the thirty-fourth year of his age. His youngest brother, James, who was also bred to the law, died of a pulmonary consumption, in the twenty-third year of his age, at South-Carolina, whither he had gone for his health, in 1795, just as he had concluded his studies, and was about to enter on the business of his profession. These three brothers were all of them men of superior talents, and enjoyed, in a very high degree, the respect and confidence of their native state. His only surviving brother is the Rev. Dr. Samuel Miller, of New-York, of whose learning, talents and professional eminence it is unnecessary, in this place, to make mention: they are displayed in his various writings on theology and general science; among which may be particularly noticed, his Brief Retrospect of the Eighteenth Century, a performance deservedly placed among the number of those that have most successfully vindicated the literary character of America.

Edward Miller, the subject of these memoirs, passed the first fourteen years of his life under his paternal roof, and commenced his acquaintance with the Latin and Greek languages, under the direction of his father, who was a good Latin, Greek, and Hebrew scholar. At about the abovementioned age, he was sent to an academy of high reputation, at Newark, in Delaware, which flourished for a number of years under the care of the Rev. Drs. Francis Allison and Alexander M'Dowell. In this academy, the arts and sciences as well as the languages were taught; but it was particularly celebrated for classical literature, and it is no inconsiderable encomium to say that a great number of the most profound and erudite scholars of our country, acquired their knowledge at this institution. Indeed it was a college in every thing else but in name.

On leaving the academy where he greatly distinguished himself by his partiality for, and his skill in classical literature, a partiality which he manifested to the end of life, he commenced the study of medicine, under the direction of Dr. Charles Ridgely, an eminent physician in Dover. He soon acquired a high character as a student of medicine, and gained the respect and esteem of his fellow companions; and Dr. Ridgely, with that urbanity and liberality which greatly distinguished him, was so pleased with the talents and deportment of the youthful votary of the healing art, that he made offers to him of the most liberal kind, and always treated him as a favorite pupil. About this time, he attended two courses of medical lectures in the university of Pennsylvania.

On completing his medical studies, or rather as a mean of extending and completing them, Edward Miller spent about a year, in 1781 and 1782, in the military hospital at Baskingridge in New-Jersey, in the capacity of a surgeon's mate. In the summer of 1782, he went to France, as the surgeon of an armed ship. On that voyage, and while in France, he learned the French language, which he afterwards cultivated and retained, and which he spoke with great fluency. On his return from France, in the summer of 1783, he entered on the practice of medicine, first in Somerset county, in Maryland, and

afterwards in his native town, Dover. In this latter place he settled about the year 1786. In 1785, he was admitted to the degree of bachelor of medicine in the university of Pennsylvania. According to a regulation then in force, it was necessary for that honor to precede the degree of doctor in medicine, at least three or four years. In 1789, he was graduated doctor in medicine in the same institution. On this occasion, having undergone the usual examinations, he submitted, and afterwards published, a Latin Inaugural Dissertation, *De Physconia Splenica*. When it is considered that he wrote this exercise wholly himself, without the smallest assistance from any one; and that amidst the duties of an active life, he had been out of the habit of writing Latin for a number of years, it affords ample evidence that his early initiation into that language had been of no slight or ordinary kind. In Dover he spent ten years; the greater part of the time in an extensive and successful practice. Here, however, as during the whole course of his life, he manifested a great thirst for general knowledge, and especially for medical discovery and improvement. He generally visited Philadelphia, at least once a year, sought for all the new publications within his reach, sent to Europe for those which he needed and could not procure in America, and at that early period, began that correspondence with eminent physicians beyond the Atlantic, which he continued and extended as long as he lived.

In the year 1796, he removed to the city of New-York, a situation which afforded him a greater field for the exercise of his talents, and an opportunity of enjoying the society of his only surviving brother. Besides discharging the practical duties of his profession, he now devoted himself more closely to the cultivation and extension of the science of medicine. In a few months after his removal to this city, he commenced, in conjunction with Dr. Mitchell and Dr. E. H. Smith, the publication of the American Repository, the first journal of the kind established in this country. Though shortly deprived by death of his much lamented associate, Dr. Smith, he, in connexion with his learned and able colleague, continued the management of that work, with distinguished success, for upwards of fourteen years. In 1803, he was appointed resident physician for the city of New-York, which office he continued to hold, with the intermission of one year to the close of his life. In 1805, he was elected a member of the American Philosophical Society; and, upon the organization of the College of Physicians and Surgeons of New-York, was appointed, by the regents of the university, professor of the theory and practice of physic in that institution. In 1809, he was chosen one of the physicians, and a clinical teacher in the New-York Hospital.

While thus engaged in the discharge of the duties of his profession, he was attacked about a month previous to his death, with symptoms of pneumonia, which yielded to the ordinary treatment pursued in that disease. His complaint however soon returned with increased violence, assuming the typhoid character, attended with considerable irritation of the nervous system, and great prostration of strength. In this condition he continued until the time of his dissolution, which took place on the morning of the 17th of March, 1812, in the fifty-second year of his age.

His chief publications were, an Inaugural Dissertation, *De Physconia Splenica*, printed in 1789. His Report on the Malignant Yellow Fever which prevailed in New-York in 1805, in a letter to Gov. Lewis, printed in 1806. His papers in the Medical Repository; and the Appendix to Dr. Thomas's Practice of Physic, containing chiefly the abovementioned "Report," printed in 1811.

From the review of the life and literary labors of Dr. Miller, let us now turn to a consideration of his character. Whether we consider Dr. Miller as a physician or as a man; whether in the walks of public or in private life, he has equal claims to our respect and admiration. Endowed by nature with a mind at once quick in its perceptions and comprehensive in its views, and with a memory extremely retentive and accurate, he acquired from his great thirst for knowledge and devotedness to study, an intimate acquaintance with the science of medicine. From his proficiency in the Greek and Latin

languages, and in those of modern Europe, he was enabled to obtain ready access to the treasures of knowledge contained in the writers of those nations. This knowledge he particularly displayed in his public instructions as a teacher. Of his merits, in the immediate exercise of the duties of his profession, it is unnecessary to enter into any minuteness of detail. To his comprehensive knowledge, he added a patient attention to the safety of those committed to his care, and ever retained a high sense of the responsibility attached to the medical character. To an address the most engaging, from a happy union of dignity, respectfulness, and ease, was added a gravity of deportment that evinced a due concern for the distresses of those whom he was called upon to relieve. The kindred sympathy which his feelings constantly manifested, and the encouragement and consolation which the sensibility of his heart and the resources of his cultivated mind always supplied, enabled him to discharge the double duties of the friend and physician, and alike to minister relief to the afflictions of the mind, with no less efficacy than to the diseases of the body.

The distinction which Dr. Miller attained did not depend upon his acquaintance with those branches of knowledge only which belong to his profession; they indeed were the objects of his primary attention, but there were other objects of which he was far from being neglectful. Believing that liberal and elegant studies give additional lustre to character, and ennoble professional reputation, he devoted a considerable portion of his time to the acquisition of general science and the ornamental parts of literature. From his writings, an idea may be formed of his literary qualifications, and his various accomplishments as a scholar. Their chief object was a defence of the doctrine of the domestic origin of yellow fever, and the non-contagious nature of that disease, a doctrine of which he and Dr. Rush are acknowledged the most zealous and successful advocates.

——————————si Pergama dextra,
Defendi possent, etiam hac defensa fuissent.

But however highly Dr. Miller was to be admired for the endowments of his understanding and his various attainments, the sentiments of affection and esteem are more forcibly excited by the exalted qualities which adorned his moral nature. In every relation of life, both public and private, he was uniformly guided by principles of the purest integrity. No man seems to have been more sensible of the dignity of his profession, and no one was ever more guarded lest that dignity be sullied. In his political opinions he was uniform and decided, yet the spirit of party never so far influenced him as to become the mountebank politician. Such conduct he considered incompatible with the character of a physician. His fellow citizens manifested a grateful sense of his worth, and appointed him for a series of years to an office of high respectability. Despising the low artifices by which many obtain professional practice, he was distinguished for his fine sense of propriety and honor in his intercourse with his brethren of the faculty. The writer of this imperfect sketch, who has often witnessed his delicacy in this respect, would do injustice to his own feelings were he not to state, that his deportment conciliated the affection of all, and is worthy of universal imitation. As a philanthropist, he exercised an extensive charity to the poor in gratuitous medical services. It were needless to dwell upon his character, as displayed in the circle of his immediate friends, whom the ties of consanguinity, or whom similar inclinations and pursuits had united in the bond of friendship. He evinced all the energies of social affection; he loved with all the warmth of fraternal kindness.—*American Medical and Philosophical Register.*

Arthur Middleton was born in South Carolina in 1743. He was sent in early life to England to receive his education. He went from Westminster to Cambridge, and had the reputation of being a good scholar. He travelled after leaving the University, and in 1773, returned home, and settled in his native state. On the breaking out of the revolution, he proved himself a patriot, although he had much to lose. In 1776, he was sent to the Continental Congress, and was one of the signers of the Declaration of Independence.

His property suffered much during the war; and when Charleston was taken, he was made a prisoner. On his return his constituents still delighted to honor him; and he was never out of their sight until the day of his death, which happened the 1st of January, 1787. He was a staunch patriot, and an accomplished gentleman.

Samuel Latham Mitchill L.L.D. There are some men who are praised and satyrized, and yet resorted to on all occasions, and are ever ready to assist the scientific and literary, notwithstanding they often feel weary and offended with the world which does not always show them the courtesy that it should. Among those who did not gain all the laurels at home, that he should have had, while he was honored by almost every intelligent court, and every learned society abroad, was Doctor Mitchill. His character is a study, and should be familiar to all his countrymen. He was born in that eventful period that preceded the revolution, when all the political elements were in effervescence, 1764, in Queens county, Long-Island. His early education was domestic and private. During the period of his youth, there were but few literary and scientific institutions in our country that were not embarrassed. His family were Quakers, and probably had no great partiality to public schools. His father was a respectable yeoman, but perhaps had no particular respect for the higher attainments of intelligence; but young Mitchill found in a maternal uncle, Doctor Samuel Latham, after whom he was named, one capable and willing to afford him the advantages of a classical education. By this kind relative he was provided with instructers, and most assidiously improved every opportunity to get knowledge. He not only became a ready classical scholar, but began early in life to investigate nature, and to listen with profound attention to her responses; and he became a philosopher before he had reached his twentieth year. Soon after the peace of 1783, he was sent to Europe, to study the science of medicine. He visited Edinburgh, and found there, great minds, deeply intent upon the study of his profession; he attended their lectures and soon caught the spirit that urged them onward, and at once became distinguished where all were learned. Nothing escaped his observations, and he made memoranda of every thing he saw, heard, or reasoned upon. These notes gave him great advantages over those who neglect to make such minutes, trusting to their memories, which in some twenty years almost always deceive them. While in Europe, he identified himself with his professional brethren, and the benefit was quite reciprocal, for he had acquired, young as he was, much knowledge of his native country, and communicated his information most freely to his friends. He was playful as learned, and received a compliment with no ordinary grace. While at the University to which Friar Bacon was once attached, he inquired for the room in which that great pioneer of science was once lodged;—tradition had placed it over an arched way, and added in the superstitious legends of the times, that this arch was to crumble and fall when a greater than Bacon should pass under it. The doctor was aware that there was such a prophecy. The professor who was with him, replied: "Doctor, we heard of your coming, and had it taken down." The doctor bowed and said in his best manner, "Never will I again listen to the slanders which are promulgated by other institutions against yours, that you have not made any advances for centuries;—a former age would have permitted it to fall, when the fulness of time had come;—it is thus that wisdom counteracts destiny."

Doctor Mitchill returned to his own country filled with his acquirements. His fame had preceded him, and he was hailed by his friends in the state of New-York with the most flattering attention. Columbia College gave him a degree of Master of Arts. He was now considered as the best chemist and naturalist in the country. The good people, from old Hendrick down to this period had drank the waters of Saratoga, and found relief from swellings, pains, and half an hundred evils, but never knew any thing scientifically of the virtues of these waters any more than those aborigines who drank them ten centuries ago; he now analyzed them and gave to ga-

ping wonder the terms of science, and this no doubt, cured many. In 1792, the doctor was elected to a seat in the legislature of New-York, and soon after was appointed a professor of chemistry, natural history, and agriculture in Columbia College. He was now fairly before the public as a philosopher, and was every where active in his duties; as professor in Columbia College, he promulgated the new doctrines of the French chemists, and subjected himself to severe animadversions and violent opposition, but went on undaunted and was in the end triumphant. He did not confine himself to chemistry alone, but went into the science of mineralogy, and out-stripped all his competitors. He pursued his studies on a broad scale. His learned and celebrated eulogist Dr. Felix Pascalis, who labored with Mitchill in the cause of science, with a noble emulation and with admirable success—for nearly forty years—and to whom I am much indebted for many of my facts and observations in this brief notice, says, "His memorable mineralogical report, in the year 1796, to the Agricultural Society, which may be found entire in the Medical Repository, was such a production as placed its author on a level with Warren, Bergman, Barzeliers and Harvey. It comprised a statistic view of the boundaries, divisions, mountains, rivers, and levels, and the soils and minerals of his native state, which might be converted into imperishable sources of wealth and industry. It traces, geologically, the granite, schistic, limestone, and sand stone tracts of the main land; and in the islands and alluvions, the primitive and secondary formations, the marshes, leaches, oversloughs, and lowlands. This report is a brief in mineralogy of universal knowledge; all is explored and described from the highest mountain ridge, or the craters of extinct volcanoes, to the beds of rivers; from homogeneous earths and soils, to precious metals, crystallization, gems and every combination that has sprung from the operations of fire, water, and of specific gravity. During his excursions and travels, and out of his intercourse with the learned of every nation, it could not but happen that an immense number of specimens in the mineral kingdom, on which he dissertised so profoundly, accumulated under his hands. To this large and precious collection, other natural curiosities of a durable nature, and singular fabrication, were added, until it formed a rich cabinet of organic remains, of fossil plants, of shells, of moluscos, madrepores, and marine productions of gems, jaspers, agates, crystals, and all remarkable relics. The Mitchillian Cabinet, will no doubt contribute much to the instruction of future generations, and to the pleasures of the friends and lovers of natural history."

Dr. Mitchill was for several years a member of the state and national legislatures, and was constantly proposing something for the advancement of knowledge; but it may be said that he was in advance of the age in which he lived, and many of the schemes he proposed were thought visionary, which have since been found wise and practical. This has been the fate of others before his time, and will be the lot of thousands yet unborn.

He never lost sight of his profession and all the train of philosophy which belongs to it, even when he was a politician; and was a constant observer of nature, while his compeers were calculating in what manner they should conduct the next election.

Many notices of Dr. Mitchill appeared in his life time, some grave and others playful. The following was sketched by the writer of this notice a year or two since, which he takes the liberty of inserting here.

Doctor Samuel L. Mitchill is a name as familiar to those on the other side of the Atlantic as with us, on this; for he has received academic honors from every literary and scientific institution, I believe, of note in the world; and the doctor himself is less understood than any other man living. Some have laughed at him as a credulous, rhapsodical lover of learning, but without much true science, and entirely destitute of judgment and common sense. Others, and particularly those in foreign countries, hail him as the most learned man in America; for they have received more information from him than from others, and it is natural they should suppose that he was truly

at the head of our savans and literati. The doctor has analyzed every thing which has been brought forward for nearly half a century past, in matter and mind; and he cannot complain if he should now be analyzed himself. In that part of his character which assures a man true respect and affection from those around him, a kind disposition, and a benevolent heart, and a life of charitable deeds, the doctor has nothing to fear from any scrutiny. But to commence as the moral anatomist, upon his capacities, powers, and organizations, it may be said that his memory is wonderful, and he has stored up an immense accumulation of facts in every art and science, and every incident in history; not contented with this, he never suffers a fact or circumstance, which he has taken pains to treasure in his memory, to be there alone; but he makes a minute of it on paper, and puts that in a pigeon-hole, to answer as a voucher to his memory, if that should fail him, or be doubted by himself or others. From these methods he has obtained advantages over most men, in fact, I might say, over any one I ever knew. He has not only been industrious in this accumulation of valuable materials, but his mind has been active in reasoning upon them. He is happy in great quickness of perception, and falls more naturally into a train of correct reasoning, than those who labor ever so hard for it. He describes with great ease, and often most felicitously. If his style is sometimes tainted with a little vanity, it bears no marks of arrogance. It is true that he never fears to meet a subject, however novel, and it is true that he seldom touches one without giving it some new grace or ornament. He is equally happy in giving names as characteristics. A monster of the ocean unknown, and of course unnamed by ancients or moderns, some ten years ago was caught in our waters; the doctor saw, dissected it, and named it "the vampire of the ocean;" and I challenge the lovers of Buffon to produce a more accurate, lively, and philosophical description in all that admired author's works, than was given of this anomaly. The doctor is called *credulous;* indeed he is; but his is not the credulity of wondering ignorance, that knowing nothing, believes every thing; whose imagination makes hobgoblins and "*chimeras dire;*" and fears the powers of fiends, because he know nothing of angelic natures. The doctor's credulity, in all the wonders of creation, is like that charged by the noble Festus upon Paul—"Much learning doth make thee mad;" by which madness, was meant an unbounded credulity in believing a newly promulgated religion, which was *to the wise a stumbling block and to the Greeks foolishness.* The doctor's credulity arose from knowing more than other men. He was acquainted with the laws of nature, and knew not where to fix her bounds. He saw that she was carrying on innumerable processes, in an immense laboratory, and could not say what she might not produce next. If he who knows but little is credulous, he who knows much is more so. About forty years since, a wise father whose son had been in India, heard his accounts of certain religionists of that country, suspending themselves with hooks thrust through the flesh of the ribs, and swinging for hours in the air, said, "*My dear son, I believe your narrative fully, because you have been taught to tell the truth; but do not repeat the story, for others will not believe you; it is too much for them to credit; wait a while, and others will tell the tale, and you may confirm it; I will assure you it is dangerous to be a discoverer;*"—and the friends of Fulton begged of him not to persist in his speculations on the use of steam engines. Such credulity as Dr. Mitchill possesses, has been the promoter of all that is useful in the arts and sciences. Tecumseh said to an Indian agent, "*You tell me that you know how many steps it is round this earth, and you never crossed the mountains! Tell me who is the mother of all the rivers; how deep is the sea; and when the sun will grow old, and die, like my forefathers; I will then believe that you can tell me how long my arms must be to embrace my mother earth.*" The agent replied, "I can tell you when yon moon shall hide her head, and become dark; and you will see the darkness come on; and all yon tribes shall

see it also." The wondering savage seized the thought, and bought the secret; foretold the eclipse to his followers; this increased their confidence in him; the eclipse happened; his fame was established; and he threatened the agent and astronomer, from whom he obtained the secret, with death, if he was not out of his reach forthwith. The moral is at hand; many a one has availed himself of the doctor's information, calculations, and conjectures, and tried to hide his own ignorance in abusing the source from whence his knowledge flowed. There is a vanity, however, in human nature, which the good doctor has a share of; that is, a desire of having a reputation for knowing almost all things; yet it must be confessed, that the doctor's manner is modest enough.

The doctor has been charged with *enthusiasm*. He is enthusiastic; but it is that ardor of mind that wishes to raise the standard of knowledge above what it is in this country, which is, indeed, a pardonable enthusiasm. Nothing good or great was ever achieved without it. It is the "*divine inflation*" which swell the bosoms of the gods of knowledge, when they labor for the sons of men.

The doctor is not only credulous, inquisitive, enthusiastic, but ambitious. He wishes this country to be the first on earth, and himself the first in the country. This is fair; and if he fails in either, after having made the struggle to bring about his wishes, who will say that the attempt was not a noble one? Give us more such ambitious men as Sir Humphry Davy, such credulous ones as Columbus and Fulton, and you may cover them with the names of enthusiasts, dupes, and insane men, and every other epithet that ignorance and dullness can pick up, or mouth, after some disappointed rival has once spoken it.

There is another sin the doctor has long been guilty of; and that is, the sin of *perseverance* in attempting to enlighten mankind, after sciolists and fops have satirized him for attempting to make them wise. This is a "grievous offence," and one that can never be forgiven, while envy has so much sway among men.

If any one denies the doctor taste and science, let him go and view his cabinet of curiosities, and see the order and beauty of his arrangement. Every thing in its place, from *the butterfly and humming-bird, caught on the summer flower*, to the tooth of the mastodon, the horns of the elk, and the brick, coming all the way from Babylon, to the meteoric stone coming from God-knows-where, and then ask him if there is not taste, science, patience, and much that should make a great philosopher in Dr. Mitchill's cabinet.

It is but justice to the memory of Doctor Mitchill, for the writer of this article to acknowledge, that since the publication of the playful description just quoted, which was when the subject was living—he has become more acquainted with the writings of the doctor, and that his admiration for his talents and acquirements has increased by the examination. There is in his works a rare simplicity, a clear, and deep philosophy, with a wonderful foresight in regard to the growth, and true interests of this country,—and to the multiplication of our republican institutions. It is more than twenty years since the following letter was written to a young friend who made some enquiries of him in regard to the Military Academy. It was published in the Medical Register for 1814—then edited by Drs. Hosack and Francis, but the letter was dated May 10, 1812. It shows how clearly he saw, in the infancy of that institution, to what a generous growth it would reach, and what great good it would do for the military character of the nation.

"You ask of me, my young friend, information concerning the institution founded by the American government, for the advancement of military education. I cheerfully offer you such a history of the seminary as my memory contains. It is however but a sketch; but may, perhaps, answer your purpose, until some one of the worthy and scientific gentlemen who have been instructed there, shall give us further intelligence concerning so excellent a school.

It was not, I think, until May, 1794, (5 Washington) that a law was enacted for raising a corps of artillerists and engineers. It was to consist of seven hundred and sixty-four noncommissioned officers, privates and

artificers, to serve as privates and musicians; with a proportion of commissioned officers to command them. The president was authorised to procure the books, instruments, and apparatus necessary for the corps, and they were enlisted for three years.

In April, 1798, (2 Adams) an additional regiment of artillerists and engineers was authorised to be raised, for five years; and the secretary at war was directed to provide, at the public expense, under the direction of the president, all necessary books, instruments, and apparatus for the use and benefit of the regiment.

Afterwards, in the act passed July 16th of the same year, for augmenting the army of the United States, and for other purposes, the president was authorised by its seventh section to appoint four teachers of the arts and sciences, necessary for artillerists and engineers, with allowance to them of fifty dollars monthly pay, and two rations *per diem*.

This useful establishment was continued by the twenty-sixth, twenty-seventh, and twenty-eighth sections of the statute fixing the military peace establishment, which received the executive approbation on the 16th March, 1802. (2 Jefferson.)

The president was thereby authorised and empowered to organize and establish a corps of engineers, to consist of officers and cadets; and to make such promotions, with a view to particular merit, and without regard to rank, as to amount to one colonel, two majors, four captains, four first lieutenants, and four second lieutenants, provided the whole number of the corps should at no time exceed twenty officers and cadets.

The corps when formed was stationed and fixed at West-Point in the state of New-York, and there established as a Military Academy. But the engineers, assistant-engineers, and cadets of the corps, were at all times subject to do duty in such places and on such services as the president of the United States should direct.

It was enacted that the principal engineer, and during his absence, the next in rank, should preside over the academy, under the direction of the chief executive magistrate of the nation; and the secretary at war was authorised, at the public expense, and under such regulations as the president should make, to procure the books, implements, and apparatus necessary to put the plan into operation.

Business was begun and progressed with promises of so much advantage, that by an additional act, passed 28th February, 1803, the president was empowered to appoint one teacher of the French language, and one teacher of drawing, to be attached to the corps of engineers; whose pay and emoluments should not exceed those of a captain in the line of the army. By the same law, it was provided, that the commanding officer of the corps might enlist for a term not less than three years, one artificer, and eighteen men, to aid in making the practical experiments, and for other purposes. These were to receive the same pay, rations, and clothing as the artifices and privates in the army, and the same bounty when enlisted for five years. They were also to be subject to the rules and articles of war.

Money was afterwards appropriated for three successive years, to purchase maps, plans, books and instruments, jointly for the war department and the military academy. These years were, if I mistake not, 1803, 1804, and 1805. The respective sums were two thousand, one thousand, and five hundred dollars.

It is worthy your notice, that the military academy has not been mentioned in any of the appropriation laws from 1806 to 1812, inclusive. This will be evident to any person who examines the several acts. On the 18th April, 1806, the money appropriated to purchase maps, plans, books and instruments for the war department alone, was one thousand and five hundred dollars; on the 16th January, 1807, fifteen hundred; on the 3d March, 1808, a like sum; on the 3d March, 1809, two thousand and five hundred; on the 2d March, 1810, an equal sum; on the 6th February, 1811, a similar amount; and lastly on the 21st February, 1812, the same number of dollars. During these seven years, the aggregate amount of the money appropriated for these purposes, is fourteen thousand and five hundred dollars. You cannot fail to be satisfied of the generosity of the legislature; and, when

you consider that during this term, no part of the appropriation has been given to the Military Academy, you will be strongly impressed with the variety, extent and value of the library and apparatus at the war department.

The Academy having for several years been in a less prosperous condition than formerly, from a concurrence of causes which I shall not now particularize, several attempts have been made to revive it. New and important regulations were at length introduced by the act of April 29th, 1812, (4 Madison,) both into the corps of engineers and the military academy.

To that corps, as heretofore established, were added two captains, two first and two second lieutenants, one paymaster, four sergeants, four corporals, one teacher of music, four musicians, nineteen artificers, and sixty-two men. A company of bombardiers, sappers, and miners, was formed out of them.

The Military Academy now consists of the corps of engineers, and of the following professors and instructors; first, a professor of natural and experimental philosophy, to receive the pay and emoluments of a lieutenant colonel; secondly, a professor of mathematics, to have the pay and emoluments of a major; and thirdly, a professor of the art of engineering in all its branches, with the pay and emoluments of a major. Each of these professors may have an assistant professor, to be selected from the most promising characters among the officers and cadets, and entitled respectively to the pay and emoluments of captains. The teaching of the French tongue and of drawing are continued and provided for as on the former establishment. It is a pity there is not a distinct professorship of chemistry; it may, nevertheless, be taught by an able instructer, as a science appertaining to experimental philosophy.

The cadets already appointed, and to be hereafter appointed, are increased to two hundred and fifty; and may, at the president's discretion, be attached to the military academy, and subjected to its regulations; they may be arranged into companies of non-commissioned officers and privates for the purpose of military instruction, and the knowledge of encampments. Candidates for cadetships must not be younger than fourteen, nor older than twenty-one years; and must be well versed in reading, writing, and arithmetic, before they receive appointments from the president. They shall sign articles, by consent of their parents or guardians, engaging themselves to serve five years, unless sooner discharged, and they shall be allowed for pay, the sum of sixteen dollars per month, and two rations per diem.

After the cadets shall have received regular degrees from the academical staff, in consequence of having risen through all the classes, they become qualified to obtain commissions in any corps for which they may be judged competent. These are the rewards and honors which students may attain by proficiency and good conduct, and, indeed, they are some of the most powerful incentives that can be applied to the human mind; for, besides the subsistence which is provided by this country for the young votary to science and arms, he has in bright prospect every thing that professional fame and preferment can afford: no institution in the United States holds out to its alumni any encouragement that deserves to be compared with this.

Twenty-five thousand dollars are, by this recent and liberal statute, appropriated for erecting buildings, and for procuring an apparatus, a library, and all necessary implements; and likewise for defraying such contingent expenses as in the opinion of the President of the United States may be expedient for the Academy. With this, a handsome beginning may be made, and after the business shall have been commenced, I do not entertain a doubt that under a sound, moral, and intelligent system of tuition, Congress will, from time to time, extend to it a munificent and dignified patronage. For I must own to you, I look to this very college, as the place where a portion of our most promising youth is to be trained up in the discipline and lore that shall qualify them, in a peculiar manner, to assert and defend their country's rights.

West-Point, that distinguished post in the Highlands of New-York, and the station which is capable of commanding the Hudson, as it passes

through that rough and ragged region is the spot at which this national institution is to be continued in its new form, and with its enlarged endowments.

The objections that have been made to the place, as too remote from society, will soon vanish. It will be easy to extend to it a branch of the general post-office, and thereby afford to all the residents, the advantages of regular and seasonable intelligence. In the progress of improvements, the old roads may be mended, and new ones traced through the passes of the hills. A market will gradually be formed, whereby all manner of necessaries will be brought into the neighborhood at fair prices. And during the navigating season, the steamboats, in addition to the other packets and vessels, present uncommon conveniences for the conveyance of persons and things.

That you may have some idea of the situation of the school to which you intend to connect youself, I may mention a few particulars. The mountains are of the primitive order, and composed of gray granite; they are interspersed with iron ore, much of which is magnetical. Professor Partridge ascertained their greatest height to be about one thousand four hundred feet. Yet lofty and compact as they are, the river smoothly penetrates them, without a cataract, and even without rapids: their picturesque scenery has been beautifully delineated by Robertson in his prints; by M'Kinnen in his verses; and by Knight in his geographical surveys. The place is memorable for the elevated fortress which overlooks the plain, named in honor of Putnam; for the defection and treachery of Arnold, in 1780; and for the detection and defeat of that officer's conspiracy with the enemy, by Washington.

Should you wish to make excursions, the site of Fort Montgomery, a few miles to the southward, invites the curiosity of the military student. This work is memorable for the death of Mungo Campbell, and several other British officers, who were slain in the assault made upon it in 1777; and has been further signalized by Trumbull in the painting he executed, of the scene where valiant resistance was made to the invaders on that occasion, by Clinton. About a league further down the river, you find the famous station called *Stony Point*, one of the outposts of the British forces, while they held the city of New-York, during the revolutionary war. The storming of this fortification by Wayne, is such a brilliant and successful achievement, that you will tread here, almost, as if you walked upon hallowed ground. From this eminence your eye may trace the road travelled toward *Tarrytown*, by Andre, to the fatal spot where he was arrested; and behold the precipices of basalt and trapp near Tappan, where he was executed as a spy.

Bending your course to the north, you soon arrive at Newburgh, distinguished for the cantonments of the American army; and for the quelling of a dangerous sedition that had been excited among the continental troops in 1781, by a writer of anonymous letters; and, on the opposite bank you may land in the precincts of Fishkill, a village selected for the seat of government during several years of that eventful period which was terminated by the peace of 1783. But it is time to bring my epistle to an end.

I need not add more than the obvious remark, that the august bird which has been adopted by our people as their emblem, constructs his eyry among the neighboring crags; and that the candidate for usefulness and renown will imbibe the principles and practice of his profession, beneath the wings of the *great white eagle*, who wheels majestic over his head.

With a firm reliance on your industry and enterprise, I anticipate the time when you will come forth, crowned with the well-earned wreath of your *alma mater*, and prepared to engage in the arduous service of your country. In the words of Cicero, *jubeo te bene valere*."

Doctor Mitchill had a just view of the true welfare of the country in regard to our manufacturing interests, and seized upon the first official returns of the United States officers to the Treasury Department, to give them a succinct and plain form for the benefit of the people. Every great statesman saw how soon this nation must become in a measure a manufacturing people; that com-

merce and agriculture wanted the balance-wheel of manufacturing interests to keep the nation in a steady course of prosperity. The doctor lived to see the growth of our domestic system, for the space of nearly twenty years afterward; and the little Elisha-cloud that was to be the safety of the land had spread over it, was refreshing its atmosphere, and hastening its prosperity. This extract is from the same useful work. The letter from which it is taken is dated January 2, 1812, just before the war which brought on the immediate necessity of our becoming in some manner at once a manufacturing people.

"The act further to alter and amend the act providing for the third census or enumeration of the inhabitants of the United States, passed May 1, 1810, made it the duty of the several marshals, secretaries, and their assistants, while they were taking the census of the people, to take also, under the direction of the secretary of the treasury, and according to the instructions he should give, an account of the several manufacturing establishments and manufactories within their several districts, territories, and divisions. It was directed that the whole of the information so collected should be returned to the secretary of the treasury. It was enacted too that for such additional services, suitable compensation should hereafter be made by law. The money appropriated for counting the inhabitants and registering their manufactures, was one hundred and fifty thousand dollars, which is understood to have been more than enough to defray the whole cost.

Agreeably to the request of the committee of commerce and manufactures, I have paid some attention to the returns made by the marshals on the state of manufactures in our country. They abound with information; though some of them are executed with greatly more care and exactness than others. Massachusetts appears to have been done with remarkable correctness and method, by counties and towns. The partial accounts are followed by a general recapitulation; and the whole is an example of order and perspicuity exceedingly creditable to Mr. Prince. South Carolina, on the contrary, is an example of carelessness beyond any of the returns. It is deficient in many important respects; and seems to have been sent away in such a hurry, that the columns of figures are not added together into an aggregate sum at the foot.

The information collected in the other states, evinces intermediate degrees of observation and accuracy. Yet it ought to be mentioned of New-Jersey, a state famous for industry and manufactures, that the county abstracts only are forwarded, without any summary whatever of the whole. To render the statement instructive, the reader must bestow the labor of forming the general conclusion; and in attempting this, he will discover frequent instances of incompleteness or inaccuracy. With this may be contrasted the return from Pennsylvania, which evinces an extent of research, on the part of Mr. Smith, honorable to him as an officer, and exhibits the manual arts and trades of the commonwealth to which he belongs in a highly advantageous light. Their numbers and kinds are displayed with extraordinary detail, both as to the branches carried on and capital employed.

I nevertheless undertook the task of making a general abstract, and of deducting a sort of comprehensive table. I began with the return of Mr. Curtenius, from New York, and entered the total sums of his several articles in one line upon a sheet of paper. There I recorded the 867 tanneries, 491 distilleries, 42 breweries, 33,068 looms, 467 fulling-mills, 413 carding machines, 26 cotton manufactories, 28 paper-mills, 124 hatteries, 6 glass-houses, 2 powder-mills, 18 rope-walks, 10 refiners of sugar, 28 oil-mills, 11 blast furnaces, 10 air-furnaces, 44 cut-nail manufactories, and 48 forges, with some other things, particularly the cloths manufactured in that extensive commonwealth. On attempting, however, to arrange the other returns under the same heads, I found great difficulties in the way. For, though Connecticut, North Carolina, Kentucky, and indeed most of the states and territories, corresponded very well to a certain number of titles, yet many of the latter were so difform and various, that it was impossible to class them under corresponding heads.

There were further difficulties. Maine, was observed by a different officer from him who took the census of Massachusetts. The return from that district is so unlike the one made by the other marshal, that it is extremely difficult, if not impossible, to make them correspond and harmonize. I despaired, therefore, of effecting a reconcilement in the returns from the two parts of Massachusetts. Again; Tennessee is in very much the same situation. The marshal of the western district of that state has made a valuable return; his colleague of the eastern district has not equalled him in particularizing and distributing his subject, and besides, has pursued so different a plan that it is not practicable to adapt them.

I might easily make other observations. The return from Rhode Island might be quoted for its minuteness and accuracy. But, notwithstanding the appearance of observation and fidelity which pervades it, there is almost or quite an impossibility of adjusting its materials with those contained in the other returns. The like remark applies to Ohio, though its return contains indications of perspicacity and diligence; and to Michigan, whose secretary, Atwater, has furnished a paper, which, though small, is a model of perspicuity and neatness.

After several attempts to arrange and methodize the materials, so as to bring them into one compendious view, I became convinced that my labors were fruitless, and I abandoned the undertaking. It is certainly a subject of regret that a grand total cannot be formed of all the manufacturing establishments in the nation. Yet we may rejoice that so much has been done. When the next census shall be taken, we may be more successful. An exact schedule of all the subjects of inquiry ought to be formed. These, if transmitted to the proper officers, would direct their attention to certain and definite objects. The returns would thereby be rendered uniform, and capable of being added up into one great account, exhibiting in a concordant and uniform manner all the subjects inquired into throughout the states and territories.

Some most valuable information is derived from these returns, in complete and heterogeneous as they are. Under the head of sheep, for example, we learn that Vermont contains a stock of 450,000; Massachusetts 399,182; Connecticut 400,000; and Pennsylvania 1,466,918.—Among these are included the individuals of the merino breed, and of the mixed race derived from their communication with the ordinary kind. From these premises we deduce favorable conclusions as to the food derived from their carcasses, the leather from their skins, and above all the clothing from their fleeces.

The number of looms, and of carding and spinning machines, almost exceeds belief, as does also the amount of cloth prepared by the inhabitants. The woollen manufacture has prodigiously increased, as well in the quality and variety, as in the quantity of the goods. Such advances are already made toward supplying domestic fabrics enough to clothe the people, that but few years more will be necessary, under the existing commercial restrictions, to effect that important object.

The progress made in the preparation of cotton-twist, and of the articles into which it may be manfactured by the weaver, has been still more rapid and surprising. From a perusal of these papers, the most comfortable assurance is derived of the amount and fitness of these products of the loom, to afford a covering to man, and furniture for his habitation.

The fabrics of flax are also so far extended, and so much on the increase, as to excite the most cheering prospects of an augmented supply to our citizens, from their own proper labor and skill. The superior excellence of homespun linen is the strongest of all recommendations.

These papers contain a more distinct and interesting exhibition than we ever had before of the saltpetre manufactured in the states. Thus Virginia prepares 59,175 pounds; Kentucky 201,937; Massachusetts 23,600; East Tennessee 17,531; and West Tennessee, chiefly in Jackson, Warren, White, and Smith counties, 144,895; making nearly half a million pounds of home-made nitre, as good as that usually brought from foreign parts. It is alleged, the quantity may be increased to any desirable amount.

The connection of this with numerous manufactories of gun-powder, puts us quite at our ease as to the nitrate of potash, and to the means we possess of compounding it.

The manufacture of straw is eminently worthy of notice. In Massachusetts, where the forming of bonnets from that material seems to have first begun, the yearly amount of the sales is not less than $551,988. The manufacture of straw bonnets has been since undertaken in Connecticut, and produces the yearly value of $27,100; and it is worthy of remark that the labors of two women in New Jersey, in the same way, yielded them $140, amounting to the sum of $579,228, for the single article of straw bonnets.

Nor is the preparation of sugar from the juice of the maple tree unimportant. Of this domestic sweet, Ohio produces, in a twelve-month, 3,023,806 pounds; Kentucky, 2,471,647; Vermont, 1,200,000; and East Tennessee, 162,340: making a quantity of nearly seven million pounds in these states only, wherein the returns may be conceived to be greatly within the truth.

Works in horn, ivory, and shell, have made a progress that is worthy of notice. The combs, for instance, which Connecticut prepares annually for market, are estimated at $70,000; Massachusetts $80,624; and Pennsylvania $6,240; equalling a sum of $156,864.

I may mention too the abundance of copperas which West Tennessee, and Vermont afford. The quantity per annum from the former, is stated at 56,000 lbs; and from the latter, at 8,000. The quality of these sulphates of iron are declared to be very fine, and that druggists and dyers may be supplied to any demand they may make.

The tanning of skins is displayed, in these surveys, to great advantage. Indeed, among a people who universally wear shoes of leather, and a great part of whose male inhabitants dress in boots, the consumption of that material is extravagant. By admitting hides and peltry free of impost, and laying heavy duties upon the introduction of tanned and rawed leather, congress has given ample protection to the operations of preparing skins for use. But our domestic supplies go far beyond the demand for the feet and legs. Saddlery, harness, and books, are principally supplied from the same internal source, to the great extent of their several demands; and the like may be observed of the supplies for the wants of navigation and military equipments.

A prominent feature in the face of this performance is the number of stills employed in the preparation of ardent spirits. The quantity of ardent spirits annually distilled appears, by the returns, to equal the prodigious amount of twenty-three millions seven hundred and twenty thousand gallons. The extraction of brandy from peaches, of an alcoholic liquid from cider, and of whiskey from rye, and even maize, is carried on to this alarming excess. These products of the distilleries are chiefly consumed among ourselves, though a portion of the latter is converted to gin before it reaches the human stomach. While, therefore, we observe the increase of these home-made fluids, we must reflect on their inebriating effects. It cannot be disguised, that their intoxicating quality recommends them to such general employment. Nor ought it to be concealed, that in a country where a gallon of this maddening stimulus can be bought for half a dollar, a gill may be obtained at retail for three cents, and the seller, at the same time, more than double his money. The fondness for this bewitching beverage, and the repugnance to any excise upon it, raise in the mind a curious association between the free use of it and of political freedom. And it deserves the consideration of all the thinking part of society, how far disease, idleness, immorality, and other mischiefs incidental to strong potation, may not degrade freedom to rudeness and something worse.

A few other important objects disclosed by an examination of these papers, remain to be mentioned.

The number of water and horse mills employed in spinning cotton, on this exhibition, amounted to 330, in the month of August, 1810, and working one hundred thousand spindles. These, on an average, will spin annually between four and five million pounds of yarn; and that

yarn would be sufficient to weave eighteen millions of yards of cotton cloth, three quarters of a yard wide. And this is wholly independent of what may be spun in private families, although it makes part of what is wove there.

The fulling mills returned amount to 1,630; and the wool-carding machines, going by water, to 1,585.

The number of looms returned exceeds 330,000; and the total number of yards of cloth made of wool, cotton and flax, as returned, exceeds seventy-five millions.

Gun-powder mills are enumerated to the number of 207. Some of these are, indeed, small; but they count, and, in addition to the larger ones, they prepare yearly 1,450,000 pounds of gun-powder.

Five hundred and thirty furnaces, forges and bloomeries are enumerated.

The paper mills amount to 190.

I cannot forbear to express the wish, that these important papers may fall into the hands of some person who may have time and ability to derive from them more extensive information than I am able to give you. But, until this shall be done, the present communication may serve to afford some idea of the manner in which the marshals have executed their instructions, and of the facts which their returns contain."

The doctor combined many rare qualities in his composition. With the facility of acquirement, he had a happy faculty of communicating his knowledge. What he treasured up with care, he gave out with freedom; he was above all those little artifices often used to surprise or astonish the world. His stores of learning were as a fountain by the way-side for the accommodation of all travellers, and some who drank freely of the waters made mean attempts to prevent others from going up to the same spring.

It was agreed on all sides, that he was a most amiable man, and it was equally known that he was an admirable satirist, and at times he cut deep in his observations. One day a young and empty-headed physician by diploma, met Dr. Mitchell in a steamboat, and began after some general conversation, to quiz the old man; "Doctor," said he to Mitchell, "what would you, as a physician, apply to a case of *idiocy*." "Sir," replied the doctor, "Solomon of old settled that practice, *he prescribed a rod to the fool's back*, and to fungus flesh I generally use a little lunar caustic, and for a cure of empty-headed impertinence I use a few grains of sovereign contempt, and if that does not cure the disease—a doubtful issue—the patient should be placed among the incurables. "I am ready," said he, "to give you any further items of my practice;" but no further inquiries were made.

The doctor visited Boston on the 17th of June, 1825, with Lafayette, to assist in laying the corner-stone of the Bunker-Hill monument. Notwithstanding the general excitement on the occasion, and the eagerness to see the old soldier, there were a great number of persons equally desirous of being introduced to the doctor. One of the marshals of the day said to him "doctor, this is cruel in you to come here with Lafayette—we cannot pay our devotions to two shrines at once—to Mars and Apollo." "Oh, My dear sir, you mistake for once—it is only the little planet Venus who comes when the sun is brightest to be seen as an honest pagent by intelligent astronomers, to that great luminary that shines on the just and on the unjust." A thousand things might be said of the doctor, which would be just and instructive, but we must leave them to the historian who will do more justice to his fame than the contemporary, who has in his recollection some failings incident to poor human nature to regret and some of the errors of vanity to overcome—he will look at what the philosopher has done for the good of his country, and remember these things only.

Thomas M'Kean, was born at New London, Chester County, in the state of Pennsylvania, in the year 1734. His father gave him a good education, under the tuition of the distinguished Dr. Allison, whose name is closely connected with the science and literature of our country. From his school he passed to a law office, and was ready to practice at a very early age; he soon became distinguished as a man of letters, and of uncommon maturity of mind. He was made a politician by the difficul-

ties of the times. In the congress of sixty-five, held in New-York, he was a member, where he met some of the first men the country could boast of. From this time Mr. M'Kean was active in all matters that had a bearing on the important question of the rights of the colonies; and when the continental congress convened in 1774, he was found in that body a eading member. He was there in 1776, when the Declaration of Independence was signed, and was one of the foremost on the occasion. He was then a member from Delaware. During the war he took a part as a military man, and was as brave in the field as he was eloquent in debate. He was called to fill many offices in civil life, after the close of the war, the last of which was that of Governor of Pennsylvania. He died in June, 1817, in the eighty-third year of his age. Few men have filled more offices than Governor M'Kean, fewer still with equal ability, and none with more decision of character.

Robert Morris was a native of England, but came to this country when quite young, and was educated in Philadelphia. After finishing his education, he entered a counting-house, and in a few years became conspicuous as a thorough merchant. When the revolution broke out, Mr. Morris sided with the colonists, and was distinguished as a patriot. He was elected a delegate to the second continental congress, and was in that body in 1776, when the Declaration of Independence was signed. During the whole war, he was considered the ablest financier in the country, and Washington had recourse to him, when he could not procure any thing from congress. In 1781, Mr. Morris was appointed superintendant of finances, and was, perhaps, the only man in the country fit for the office. He had a most arduous task to perform; it was indeed gigantic, for it involved all the duties of every department of the government, so far as money was concerned. Washington had the highest confidence in him, and Franklin thought him a most wonderful man. He surprised all by his power of raising money for public exigencies, when our credit was under the worst circumstances. He provided Washington with money to carry on his southern campaign against Cornwallis, the defeat of whose army ended the war. He died on the 8th of May, 1806, in the 73d year of his age. It may be said of him that he was a great public benefactor.

Lewis Morris was born in Morrisania, New-York, in the year 1726. He was descended from an ancient family. He was educated at Yale College, and returned to his native town and became a farmer. At the commencement of the great revolutionary contest, he was opulent and successful, and could not wish for any change to add to his fortune, or to his influence; but he could not support the course which the mother country was pursuing, and he took a decided stand with the patriots of the day.

In 1775 he was sent from New-York to the Continental Congress, in which he at once took a decided course, and was employed to hold a talk with the Indians, to endeavor to bring them to the American side of the great controversy. He was in congress in 1776, and was one of the signers of the Declaration of Independence. This was a truly patriotic measure with him, as he had much to lose and nothing to gain; his sons entered the army, and braver men could not be found in its ranks. Mr. Morris died on his farm in 1798 in the 71st year of his age.

Francis A. Matignon, D. D. who died in Boston, on the 19th of Sept. 1818, was born in Paris, November 10, 1753. Devoted to letters and religion from his earliest youth, his progress was rapid and his piety conspicuous. He attracted the notice of the learned faculty as he passed through the several grades of classical and theological studies; and having taken the degree of bachelor of divinity, he was ordained a priest, on Saturday, the 19th of September, the very day of the month and week, which, forty years after, was to be his last. In the year 1782, he was admitted a licentiate, and received the degree of doctor of divinity from the college of the Sorbonne in 1785. At this time he was appointed regius professor of divinity in the college of Navarre, in which seminary he performed his duties for several years, although his state of health was not good.

His talents and piety had recommended him to the notice of a prelate in great credit, (the cardinal De Brienne) who obtained for him the grant of an annuity from the king, Louis XVI. which was sufficient for all his wants, established him in independence, and took away all anxiety for the future. But the ways of Providence are inscrutable to the wisest and best of the children of men. The revolution, which dethroned his beloved monarch, and stained the altar of his God with the blood of holy men, drove Dr. Matignon an exile from his native shores. He fled to England, where he remained several months, and then returned to France to prepare for a voyage to the United States. He landed in Baltimore, and was appointed by Bishop Carroll, pastor of the Catholic Church in Boston, at which place he arrived, August 20, 1792.

The talents of doctor Matignon were of the highest order. In him were united a sound understanding, a rich and vigorous imagination, and a logical precision of thought. His learning was extensive, critical and profound, and all his productions were deeply cast, symmetrically formed, and beautifully colored. The fathers of the church and the great divines of every age were his familiar friends. His divinity was not merely speculative, nor merely practical; it was the blended influence of thought, feeling, and action. He had learned divinity as a scholar, taught it as a professor, felt it as a worshipper, and diffused it as a faithful pastor. His genius and his virtues were understood; for the wise bowed to his superior knowledge and the humble caught the spirit of his devotions. With the unbelieving and doubtful he reasoned with the mental strength of the apostle Paul; and he charmed back the penitential wanderer with the kindness and affection of John the Evangelist. His love for mankind flowed in the purest current, and his piety caught a glow from the intensity of his feeling. Rigid and scrupulous to himself, he was charitable and indulgent to others. To youth, in a particular manner, he was forgiving and fatherly. With him the tear of penitence washed away the stains of error; for he had gone up to the fountains of human nature, and knew all its weaknesses. Many, retrieved from folly and vice, can bear witness how deeply he was skilled in the science of parental government; that science so little understood, and, for want of which, so many evils arise. It is a proof of a great mind not to be soured by misfortunes nor narrowed by any particular pursuit. Dr. Matignon, if possible, grew milder, and more indulgent as he advanced in years. The storms of life had broken the heart of the man, but out of its wounds gushed the tide of sympathy and universal christian charity. The woes of life crush the feeble, make more stupid the dull, and more vindictive the proud; but the great mind and contrite soul are expanded with purer benevolence, and warmed with brighter hopes, by suffering—knowing that through tribulation and anguish the diadem of the saint is won.

To him whose heart has sickened at the selfishness of mankind, and who has seen the low and trifling pursuits of the greater proportion of human beings it is sweet and refreshing to contemplate the philosopher delighted with visions of other worlds and ravished with the harmonies of nature, pursuing his course abstracted from the bustle around him, but how much nobler is the course of the moral and christian philosopher who teaches the ways of God to man. He holds a holy communion with heaven, walks with the Creator in the garden at every hour in the day, without wishing to hide himself. While he muses the spirit burns within him, and the high influences of the inspiration force him to proclaim to the children of men the deep wonders of divine love.

But this contemplation must give angels pleasure when they behold this purified and elevated being dedicating his services, not to the mighty not to the wise, but to the humblest creatures of sorrow and suffering. Have we not seen our friend leaving these sublime contemplations and entering the habitations of want and wo? relieving their temporal necessities, administering the consolations of religion to the despairing soul in the agonies of dissolution? Yes, the sons of the forest in the most chilling climates, the tenants of the hovel, the erring and profligate can bear witness with what patience, ear-

nestness, constancy and mildness he labored to make them better.

In manners doctor Matignon was an accomplished gentleman, possessing that kindness of heart and delicacy of feeling which made him study the wants and anticipate the wishes of all he knew. He was well acquainted with the politest courtesies of society, for it must not, in accounting for his accomplishments, be forgotten, that he was born and educated in the bosom of refinement; that he was associated with chevaliers, and nobles, and was patronized by cardinals and premiers. In his earlier life, it was not uncommon to see ecclesiastics mingling in society with philosophers and courtiers, and still preserving the most perfect apostolic purity in their lives and conversation. The scrutinizing eye of infidel philosophy was upon them, and these unbelievers would have hailed it as a triumph to have caught them in the slightest deviation from their professions. But no greater proof of the soundness of their faith or the ardor of their piety could be asked, than the fact, that, from all the bishops in France at the commencement of the revolution, amounting to one hundred and thirty-eight, but three only were found wanting in integrity and good faith, when they were put to the test; and it was such a test, too, that it could have been supported by religion only. In passing such an ordeal, pride, fortitude, philosophy, and even insensibility would have failed. The whole strength of human nature was shrunken and blasted when opposed to the besom of the revolution. Then the bravest bowed in terror, or fled in affright; but then these disciples of the lowly Jesus taught mankind now they could suffer for his sake.

Doctor Matignon loved his native country, and always expressed the deepest interests in her fortunes and fate; yet his patriotism never infringed on his philanthropy. He spoke of England as a great nation which contained much to admire and imitate, and his gratitude kindled at the remembrance of British munificence and generosity to the exiled priests, of a hostile nation of different religious creeds.

When doctor Matignon came to Boston, new trials awaited him. His predecessors in this place wanted either talents, character or perseverance; and nothing of consequence had been done towards gathering and directing a flock. The good people of New-England were something more than suspicious on the subject of his success; they were suspicious of the Catholic doctrines. Their ancestors, from the settlement of the country, had been preaching against the Church of Rome, and their descendants, even the most enlightened, felt a strong impression of undefined and undefinable dislike, if not hatred, towards every papal relation. Absurd and foolish legends of the Pope and his religion were in common circulation, and the prejudice was too deeply rooted to be suddenly eradicated or even opposed. It required a thorough acquaintance with the world to know precisely how to meet these sentiments of a whole people. Violence and indiscretion would have destroyed all hopes of success. Ignorance would have exposed the cause to sarcasm and contempt, and enthusiasm, too manifest, would have produced a reaction that would have plunged the infant establishment in absolute ruin. Doctor Matignon was exactly fitted to encounter all these difficulties. And he saw them, and knew his task, with the discernment of a shrewd politician. With meekness and humility he disarmed the proud; with prudence, learning and wisdom, he met the captious and slanderous, and so gentle and so just was his course, that even the censorious forgot to watch him and the malicious were too cunning to attack one armed so strong in honesty. For four years he sustained the weight of this charge alone, until Providence sent him a coadjutor in the person of the excellent Bishop Cheverus, who seemed made by nature and fitted by education and grace to soothe his griefs by sympathy, (for he too had suffered,) to cheer him by the blandishments of taste and letters and all congenial pursuits and habits; and in fact they were as far identified as two embodied minds could be. These holy seers pursued their religious pilgrimage together, blessing and being blessed, for more than twenty years; and the young Elisha had received a double portion of the spirit, and worn the mantle of his friend and guide,

long before the sons of the prophets heard the cry of *my father, my father, the chariot of Israel and the horsemen thereof.* May the survivor find consolation in the religion he teaches, and long be kept on his journey to bless the cruise of oil in the dwellings of poverty and widowhood, and to cleanse by the power of God the leprosy of the sinful soul.

Far from the sepulchre of his fathers repose the ashes of the good and great doctor Matignon; but his grave is not as among strangers, for it was watered by the tears of an affectionate flock, and his memory is cherished by all who value learning, honor genius, or love devotion.

John Murray, a clergyman, for many years pastor of the first Presbyterian Church in the town of Newburyport in the state of Massachusetts, was born in Ireland in 1742, and was educated at Edinburgh, and after being licensed to preach, came to this country, and settled at Booth Bay in the district of Maine, and married the daughter of Col. Lithgow of that place. From this town Mr. Murray was sent a member to the provincial congress in 1775 which held their session at Watertown near Boston. At one time he acted as secretary of that body and was for a short period president pro tem. of it. He was chairman of the committee for reporting rules and orders for Congress, and the reports bear evidence of his having thoroughly studied the rules and orders of the House of Commons. These rules and orders vary but a little from those now practised upon in the legislature of Massachusetts, excepting there was nothing said of that arbitrary engine *the previous question.*

During the war, Mr. Murray left the district of Maine and moved to Newburyport on the Merrimack. The parish had been favored in having for their pastor a very learned divine, the Rev. Jonathan Parsons, the author of a volume of excellent sermons. Mr. Murray was a popular preacher. He had acquired large stores of valuable learning and was deeply read in divinity as well as in politics and the classics. He was a strong whig, and dealt out his oracles among the revolutionary patriots.

As an orator he had no superiors. His person was dignified and his manners commanding—his voice powerful and sweet, and his enunciation free from all brogue. He seldom wrote his sermons fully out, and when he did, never confined himself to his manuscript, his exuberant imagination refusing to be tied down to a written page.

The late professor John Smith of Dartmouth College, himself a host in languages, considered Murray the best Oriental scholar he had ever met with. In Greek he was at home, reading with perfect ease Thucydides and Aristotle, and some of his classical books contained learned notes from his pen in a beautiful hand writing. At the peace of 1783, he published a statistical sermon detailing the expenses of the war, to Great Britain, as it appeared from numerous official documents which he arranged and brought in a tabular form before the nation. This was considered as a most wonderful performance, and indeed it was for that time, for but few statesmen had the means of getting at this information; but he had procured and saved all the state papers of that eventful period, and made his own calculations.

He was almost worshipped by his parishioners, and held them by cords of affection. After the good old fashion of that day once or twice in a quarter, as his health would permit, he visited the common schools, and examined the scholars in the Bible and Catechism. His manner to them was kind but solemn—but he marked every indication of genius among the boys. A little fellow, clever with his pen and his pencil, was stealing a moment to sketch a likeness of the great preacher, when some ill-natured boy went to inform the parson that B. K. was drawing pictures in his Testament. The trembling limner was called up with his Testament so profaned, and as the parson looked at the drawing he saw that it was an excellent likeness of himself, with wig and gown—he mildly said to the boy, go and finish it. This was preserved for many years, and was decidedly the best likeness ever taken of him. He called the next day on the parents of the boy, and advised them to educate him as a painter. This was done, and in a few months the boy surpassed his master, and if he had followed the profession, would have

made a first rate portrait painter; but he left the profession for the seas, and died young.

The rigid sentiments of the Presbyterians were fully sustained by Mr. Murray, and to distinguish him from a preacher of the same name, who was one of the first Universalists in this country, he was called *damnation* Murray, and his namesake *salvation* Murray. Several instances are mentioned of these men of similar name and current principles, preaching in the same pulpit on the same day—and the good people sat in judgment upon their performances. The preacher of salvation was smooth, witty, and ingenious, of a gentlemanly address, and was cautious of offending any sect. The other poured out his eloquence with the spirit and energy of Chatham; and the stores of his learning were so much superior to his opponent's, that victory always perched upon his standard; but at the same time it must be recollected that he had the most popular side at that time.

He died at Newburyport, in the spring of 1793, leaving a widow, three sons, and a daughter. The three sons and his widow are dead. He left nothing but what I have mentioned to mark the existence of one of the profoundest scholars, and most acute and lofty minds that ever graced our country.

William Moore, M. D., an ornament of the profession and of christianity, was born at Newton on Long Island, in 1754. His father Samuel, and his grandfather Benjamin Moore, were agriculturalists. He received the rudiments of a classical education under the tuition of his elder brother, afterwards Bishop Moore, and President for many years of Columbia college. He attended the lectures on medicine delivered by Drs. Clossey and Samuel Bard.

In 1778 he went to London and thence to Edinburgh. In 1780 he was graduated Doctor of Medicine, on which occasion he published his dissertation De Bile. For more than forty years he continued unremittingly engaged in the arduous duties of an extensive practice, and particularly in midwifery, estimating his number of cases at about three thousand. He died in the seventy-first year of his age, in April, 1824.

The medical papers of Dr. Moore may be found in the American medical and philosophical Register, the New-York Medical Repository, and the New-York Medical and Physical Journal. For many years Dr. Moore was President of the Medical Society of the county of New-York, and an upright and vigilant Trustee of the College of Physicians and Surgeons. On his death the college recorded their testimony to his pre-eminent worth.

With the consent of Dr. Francis at that time Professor of Obstetrics in the College, I insert a part of his notice of this estimable man as delivered to the class. "Before I conclude, permit me to pay my feeble tribute of homage and respect to the memory of the late Dr. William Moore, recently called from among us by the fiat of Providence; a bright exampler of the various and important qualifications demanded of the practitioner in that department of the profession, the duties of which I have attempted to exhibit. I am persuaded that I do not allow feelings of personal friendship to prevail over the decisions of the severest scrutiny, when I assert that no member of our profession has exhibited in his life and conduct a more beautiful example of the dignity and benignant lustre of the medical character. Honored for many years with his friendship, and admitted to the privilege of his conversation, I was early taught to look upon Dr. Moore with a respect and veneration, which all my subsequent acquaintance with him served only to strengthen and confirm. Thousands among us can testify to the mildness and urbanity of his manners; to his tender and watchful regard to the suffering patient and sympathizing attendants; to his warm hearted benevolence of feeling, and devotedness to the good of all whom his eminent attainments, or the lesson of a pure and unspotted life could profit; to his strictness of moral principle, and uniform devotion to the sacred obligations of religion. It was but a few months ago, that the governors of this institution were honored with his co-operation and enlightened by his counsels. How great their loss has been can be known to those only who were acquainted with the liberality of his views, and

his freedom from every mean and selfish bias. Dr. Moore rose to his great eminence by the force of personal and professional merit. A liberal education had prepared him to commence with advantage his medical pursuits, and amid the toil and cares of his laborious career he ever continued to recur with ardor and delight to those classical studies in which he had been imbued in his youth. Seldom, indeed, has it happened that the two professions were adorned with such attainments and such private excellence, as were exhibited in the instances of Dr. William Moore and his brother, the late pious and venerable Bishop of the Church. While we cherish their worth, let the regret at our bereavement give place to a noble emulation of their pure virtue and active benevolence."—*Thacher's Medical Biography.*

Thomas Nelson was born at York, in Virginia, on the 26th of December 1738. He was sent to England for his education, and had the advantage of being under the best instructers of the island. On his return to his native land, he entered into political life, and found himself in congress in 1776, and took part in all the matters of that period. For some periods of his life he was cut off from his useful labors by disease, but on being restored to health, he again assumed official duties, and was engaged in them with honor. He was Governor of Virginia at the time the battle of Yorktown was fought, to the success of which, General Washington acknowledged that Governor Nelson contributed much. He died 4th January, 1782, aged fifty. He was a patriot and a great man. --Virginia may well be proud of his fame.

Dr. Jacob Ogden was the descendant of an English family, and born at Newark, N. J. in 1721. He received his classical education at Yale College and after having prosecuted his medical studies under such circumstances as the colonies then afforded, entered upon the practice of medicine at Jamaica, Long Island. He soon obtained a large share of public patronage, and was distinguished as an excellent practitioner for nearly forty years. He was an able supporter of the practice of inoculation for the small-pox, and made free use of mercury as a precautionary means in the management of that disease, according to the popular theory of that time. He also placed much reliance upon the liberal use of the same medicine in pneumonic affections. Dr. Ogden is best known by his letters on the "Malignant Sore Throat Distemper." They bear date October 28th, 1769, and September 14, 1774. It is contested whether the honor belongs exclusively to him as having first introduced the mercurial practice in the treatment of inflammatory disorders in the United States. Holyoke, of Salem, informs us that so early as in the years 1751 or 1752 he was in the habit of prescribing this mineral. Dr. Ogden assures us that about twenty years before the date of his first letter, he administered the mercurius dulcis freely in the sore-throat disease with children and adults. Douglass, of Boston, seems also to have had recourse to it in the same distemper in 1736. Perhaps, says an American writer, "It is most safe to divide the merit of this bold and adventurous practice between Drs. Douglass and Ogden. While other physicians says Professor J. W. Francis of New-York, were timidly and capriciously prescribing small doses of mercury in combination with other articles for the cure of the malignant sore throat distemper, Dr. Ogden of Long Island with higher and more correct pathological views, introduced mercurial remedies in the disease. The honor must, therefore, justly be conceded to him of having been the first who in the United States availed himself of the free use of mercurials in the treatment of inflammatory diseases. His letters on this occasion prove him to have been a bold and vigorous practitioner, and deserve to be referred to as creditable evidence of his attainment in medical literature" After an active and useful life, Dr. Ogden suffered an accident by the fright of his horse which induced a fatal illness. He died in the 59th year of his age.—(*Thacher's Med. Biog.*)

Joseph Orne, M. M. S. S., was a native of Salem, born in 1749. In his childhood he was remarkable for the precocity of his understanding; at the age of twelve years he entered Harvard College, and received his first degree in 1765. He then began his medical studies under the direc-

tion of Dr. Edward A. Holyoke of Salem. In 1770 he removed to Beverly and established himself in medical practice with a fair reputation and increasing fame. In 1777 he returned to Salem under auspicious circumstances, where he continued in his professional pursuits until his death.

Application being made to the venerable Dr. Holyoke for information relative to Dr. Orne, he, now in the 99th year of his age, replied with his own pen as follows: "In answer to yours respecting the character of the late Dr. Orne as a physician. He lived with me upwards of four years, and appeared to me well informed in the line of his profession, to which he was diligently attentive. He resided, after leaving me, several years in Beverly, where, I believe, he was esteemed as a successful practitioner. Upon his return to Salem, though I had not many opportunities of seeing his practice, I know he was in good repute in those families in which he was employed: but I cannot say that I ever heard that he was noted as a bold practitioner; if I did it has slipped my memory. If his life had been protracted, I have no doubt but he would have been eminent. That he had genius, wit and learning is certain; he was, in my opinion, one of the best poets our country has produced; though I believe he never gave any thing to the public."

As a practising physician Dr. Orne is recollected as possessing a sound and discriminating judgment, and was often consulted by his brethren in difficult cases. His sagacity and medical knowledge were happily manifested in a case which he pronounced Hydrocephalus internus at a time when that malady had not been discriminated by other physicians, and on examination after death his prognostic was found to prove the correctness of his judgment. His ardor for the improvement of medicine and in enriching his own mind with scientific knowledge was evinced by his exertions in importing from Europe the most recent valuable publications, and dedicating all his leisure to the investigation of new subjects. That he was not inattentive to the medical remedies of our own soil appears by an ingenious communication to the Massachusetts Medical Society. His object was to bring into notice a new article, the Heracleum Lanatum, Cowparsnip, as a remedy in epilepsy. He gave an accurate botanical description of the plant, and detailed five cases in which he had employed it, in three of which, radical cures were effected.

Dr. Orne possessed not only a taste for poetry, painting and the belles lettres, but also for natural philosophy; and had his short sojourn in life been protracted, his talents would probably have been devoted to the most useful purposes. But insatiate consumption seized him as its victim, and terminated his earthly career, January 28th, 1786, in the 37th year of his age. That the public voice duly appreciated his talents and acquirements, will appear from the circumstance, that his name is found among the first associates in the charter of the Academy of Arts and Sciences of this state, and that of the Massachusetts Medical Society, and he was also a member of the Philosophical Library Company in Salem.—*Thacher's Medical Biography.*

Samuel Osgood was born in Andover, Massachusetts, in the year 1750. He pursued for some time the study of divinity, but finding his health decline by a sedentary life, he left his studies and became a merchant. Afterwards he entered into the politics of the day, was chosen captain of a company raised in Andover, to be held in readiness for the exigencies of the times. In 1775, Capt. Osgood was at Cambridge, with the army under the command of General Ward, but he was selected as aid to that officer, for his high attainments and great readiness with his pen. When the army left Cambridge, in 1776, he retired again to private life, but when the constitution of Massachusetts was adopted in 1780, he was chosen a senator from the county of Essex. From this body, he was sent a delegate to the continental congress, and by that body was selected to fill an important situation in the Treasury Department, an office requiring extensive knowledge, and great calculation, as affairs were then situated. After the adoption of the Federal Constitution, he was appointed Postmaster General, and did much to organize that important department.

He had previous to this period left Massachusetts, and become a citizen of New-York, in which city he had married. On retiring from the office of Postmaster General, he was appointed Naval Officer for the port of New-York, which station he retained for many years, and as the duties were not arduous, he employed his leisure hours in his favorite study of theology, and wrote some learned tracts upon certain portions of the Scriptures. It was his greatest delight to go deeply into the apocalypse, and to attempt to explain these sublime outpourings of inspiration, which have so often confounded the wise and bewildered the pious. Mr. Osgood was a good Greek scholar, and was well read in general history. He had spent considerable time in the history of his own country, and thoroughly understood the character of the people. He was an old fashioned man, in the true sense of the term. He was pure in heart, plain in his manners, yet courteous and kind, intellectual, well informed, sound in principle and stedfast in purpose. Like his coadjutor Washington, he threw his whole fortune and fate into the great cause of freedom; and more fortunate than many, he lived to enjoy the results of his exertions. His memory is held in reverence in his native land, as well as in that of his adoption, and he loved them both sincerely; for the former contained the groves of his fathers, and the latter was the birth-place of his children. He died in the city of New-York, in the year 1812.

James Otis. At the accession of George III. to the hereditary dominions of the house of Hanover, the island of Great Britain exercised an undisputed sway over the fairest portion of the continent of North America. Her contest with her rival for the possession of the new world, was in effect already ended by the victorious career of her arms; and the capture of Quebec had added another and a wide spreading territory to her distant and overgrown domains. The inhabitants of this great continent, who, for the most part, claimed an English origin, retained an affectionate veneration for the parent country, and had just given the most ample proofs of their loyalty, by expending their blood and treasure to promote the aggrandizement of her empire.

Even the Pilgrims, who had long before this period, been driven out by persecution to seek an asylum in this distant land, felt that they were exchanging the delights of home for the dangers of an untrodden shore, and often, amid the solitude of these western wilds, transported themselves in imagination, to the verdant fields, the crowded marts, and the polished society of the country from which they had been separated. As the hills of England were receding from their view, and they were casting back their eyes upon those scenes they were to leave forever, they indulged the remembrance of departed pleasures and the anticipation of future difficulties, mingled with resentment for the wrongs they had suffered, and the evils with which they had been threatened. But they did not forget, in their feelings of indignation, that England was the country of their ancestors; that they had a common interest in every thing that contributed to her glory; that they were alike concerned in the monuments of her arts, the repositories of her learning, the sepulchres of her dead, the reputation of the great men who had in various ages adorned her annals; in short, in that soil which gave them birth, and that humid atmosphere whose breezes revived the association of youthful pleasures. They were neither so blind to their own interest, and the welfare of unborn generations, whose fate was so intimately connected with their own, as, from momentary passion, to forego the advantages to be derived to themselves and their posterity, from a just admiration of the land of their fathers; nor were they unable to discern those estimable qualities in the English character, and those wise provisions in her constitution, which have raised that nation to so much glory, from those hereditary evils, that have impeded her march to greatness, and to which she still clings with fatal devotion.

On this savage shore, they preserved the decencies of English manners, cultivated the study of English letters, and were governed by the wisdom of English laws. And as the founders of this flourishing re-

public gradually disappeared under the influence of time, they left to their children, with their labors and their hopes, a deep affection for their native country. This affection was transmitted with undiminished ardor through successive generations, until the middle of the eighteenth century, when it attained its greatest height by the efforts of both countries to preserve and extend the English empire in America, where the blood of the provincialists was mingled with that of the British, in the same cause.

It was at this fortunate period, when almost the whole of this new continent acknowledged the supremacy of English arms, or was still more securely governed by the voluntary obedience of its inhabitants; when an unbounded prospect of national glory was opened to the view of Great Britain in the settlement of an empire, where her language would be spoken, her laws be adopted, her manners be imitated, her literature and arts learned and admired—it was at this splendid era, hitherto unexampled in the annals of his country, that the young monarch ascended the throne of his ancestors; and certainly, if it is ever permitted to mortals to be vain, well might he have exulted in the contemplation of his matchless kingdom, which embraced the farthest extremities of the East and West; in which sun never set, night never invested, and within whose limits nations were held in subjection. But it was his misfortune, and perhaps, in some measure, his folly and his crime, to see this splendid vision fade away before him, and, ere half the period had elapsed that was destined for his reign, to find one of the worlds over which his authority extended, wrested from his dominion, and to feel his throne itself shaken by the conflict.

In return for their assistance in those wars so lately terminated with success, the mother country seemed to feel no other emotions towards her colonies, than a jealousy of their strength, and a desire of seizing their wealth. Her blind ministers began a series of attacks upon our liberty; and after insult was added to insult, and injury inflicted upon injury, the States of America were compelled to vindicate their rights by an appeal to arms.

During the years that preceded this contest, there were not found wanting among our fellow citizens, those who could discern the intentions of the ministry, and who were determined to defeat them. Many of these great men died before they saw the independence of their country, or were prevented by disease and the infirmities of nature, from taking a part in the events succeeding their early exertions. Thus while those who were concerned in the splendid scenes of the revolutionary conflict have been deservedly rewarded with the admiration of mankind, their predecessors in the great drama have perhaps been defrauded of their just proportion of fame, and thrown into shade by the glory of their more fortunate compatriots. It is our duty, as far as we are able, to perpetuate the memories of those who first opposed the demands of a tyrannical government, and opened the path through which their successors followed with so much applause.

It is well known, that the first obnoxious measures of the ministry were attempts to establish certain commercial regulations, and that their designs were frustrated in endeavoring to put in force the writs of assistance. These writs were indeed means better fitted to execute the will of a tyrant, than to enforce constitutional laws. It is not to be wondered at, then, that our ancestors were indignant at the efforts to carry them into effect; and, when the day approached, upon which it was to be decided, whether or not they were a legal instrument of power, that they should have experienced a deep concern. On that morning, when the people of this province were made acquainted with the designs of their rulers, when the first sensations of independence were sent with the force of electricity through the nerves and vitals of the community, a universal expectation of the events that were to follow, occupied the minds of the citizens of Massachusetts. With the most intense anxiety they crowded about the doors and thronged the passages of the hall of justice, eager to catch the accents of freedom, now elevated by hope or depressed by fear, as they augured the accomplishment or defeat of their wishes.

In the midst of this solicitude, the

advocate on the part of the crown arose to establish the pretensions of the petitioners, and with all the resources of learning at his command, his ingenuity and eloquence could not fail of making a deep impression upon the hearers; the friends of liberty were more anxious than ever for the fate of their cause. At this moment of perplexity, when every mind was overcast with gloom, and every heart trembled with fear; when the eyes of his friends were cast down with despondency, and the countenances of his enemies smiled with satisfaction, arose James Otis; and as he unravelled the web of sophistry, woven by his opponent, explained away the authorities he had cited, took a philosophical view of the nature of civil society, and, by appealing to established cases and the records of history, showed the illegality of those writs, and their incompatibility with the liberty of the subject —in a torrent of fierce and fiery eloquence, he overwhelmed and confuted the arguments of his adversary, destroyed the temporary gratification of his enemies, revived the drooping confidence of his friends, and, on that day, erected the standard of independence in the heart of the American colonies.

James Otis was born in Barnstable, on the fifth day of February, 1725, and was indebted to his father for all the advantages of learning existing at that time in our young country. He entered Harvard University at an early age, and, as we are told, did not wholly escape the temptations incident to a residence in collegiate institutions. But the good sense and ambition of young Otis, who now, probably, began to feel those aspirations for distinction, that are at once the evidence and cause of greatness, soon brought him back from his temporary aberrations, and converted those powers that had been dissipated in youthful levity, into instruments of extended utility. After receiving the honors of the college in 1743, he retired to his father's house, where he spent two years in the acquisition of literary information, and in laying the foundation of his future eminence. At the end of this period, he began to contemplate the "stately edifice of the laws of England," and was directed in his professional studies, by the learning and experience of Mr. Gridley, afterwards his opponent on the question of the writs of assistance, and attorney general of the province.

Upon his admission to the bar, he settled in Plymouth, where he remained two years, and enjoyed an opportunity of extending his researches in the various departments of literature and science, and of reviving and confirming those principles he had formerly acquired, but which are constantly escaping the memory in the lapse of time. But the capital of the province was the only proper theatre for the exertion of his talents, and to that place he removed at the end of the abovementioned period. There he soon acquired a reputation as a lawyer, that was not confined to his native state, but extended to the neighboring provinces. Not even his great talents, however, contributed more to his popularity in his profession, than his well known integrity and honor, for public confidence is the surest passport to public favor. With him, indeed, law was a science, and not a mercenary commodity, exposed to sale for the sake of an ill-gotten livelihood. Justice was the end of his labors and his studies, so that to him may be applied, with especial propriety, the words of Cicero concerning Sulpicius—"Neque enim ille magis juris consultus, quam justitiæ fuit. Ita quae proficiscebantur a legibus, et a jure civili, semper ad facilitatem acquitatemque referebat; neque instituere litium actiones malebat, quam controversias tullere."

Mr. Otis was not insensible to the charms of female beauty, and, after his fame and fortune were established, suffered himself to be bound with the silken cords of matrimony. It does not appear, whether his marriage was in consequence of an early attachment, or was the choice of maturer years; perhaps it is of no consequence to be known, for prudence has but little connexion with the affairs of love, and those who deliberate most and defer the longest, are often caught in an "evil net." This was not, indeed, absolutely the case with Mr. Otis, but there was a want of similarity in taste and disposition, between him and his wife, which, if it does not cause open uneasiness, or even secret indifference,

still prevents that enthusiastic affection and unmingled felicity, which are *said* to be the attendants of happy love. He was vehement and she was mild; he was conscious of his superiority, easily inflamed by passion and carried away by his imagination; she was calm and serene, full of decency and propriety, without any violent emotions, and probably without any profound thoughts. He was an ardent admirer of liberty, and roused to indignation at the least appearance of oppression; she preferred to endure present evils, rather than to run the risk of future difficulties. He was a whig and she a tory. But, after all, his marriage with Miss Ruth Cunningham, in 1755, was productive to him of happiness rather than disquiet. Had they been married in early youth, their characters would have been undoubtedly more assimilated to each other; as it was, they were of an age to supply the want of similarity by prudence and forbearance.

Mr. Otis was now in the midst of business, enjoying an unbounded popularity, with the prospect of securing to himself and his family an abundant provision for his declining years. Surrounded, however, as he was, with professional cares, he did not neglect the cultivation of letters, to which he had so studiously devoted his youth, and which were now the relaxation of his leisure hours. He was always enthusiastically fond of the classical authors in the Latin and Greek languages, and even composed separate treatises on the prosody of those celebrated tongues, one of which was given to the public; the other was destroyed in one of those unfortunate moments when he was deserted by his reason.

This happy period of his life was, however, not destined to last long, and the time was approaching when he was to be transferred from scenes of domestic retirement, to take the lead in public affairs, and to sacrifice all the enjoyments of existence upon the altar of his country. It required a patriotism like his to make this sacrifice, and while our nation shall retain any gratitude for her benefactors, the privations and sufferings of James Otis will be remembered with sympathy. After his argument against the writs of assistance, he became thenceforward the property of the public. His private concerns were neglected, his estate lay unimproved, his business was disregarded, his pleasures contemned and destroyed, even his love of learning and study, everything was made to yield to the service of his country. In 1761, he was chosen to represent the town of Boston in the legislature of the province, where he displayed so profound a knowledge of all the subjects that came under discussion, and spoke with so much good sense and eloquence, that he soon became the most conspicuous member in the house. In this situation, it often became his duty to oppose the demands of the executive authority, but he never relaxed his vigilance for the public good, and he foresaw with infallible prescience, all the secret designs against our liberty.

There was, indeed, a period when Mr. Otis seemed to falter in his course, and pause to reflect upon the consequences of his opposition. That this gave rise to a suspicion that he had bartered away the liberties of his country, in consideration of private advantages, cannot be wondered at, if we reflect upon the importance of his services, and the jealousy that often exists in the minds of men toward their benefactors. But to one who views it calmly through the medium of years, it will be so far from raising a doubt of his integrity, that it will rather be considered a proof of his patriotism. When he began to oppose the measures of the ministers, he had nothing farther in view than the removal of a present grievance. But when he found that the slavery of his country was determined upon, that the removal of one evil was but the prelude to the imposition of another, and that there was no middle course to be taken between independence and abject submission, a new question presented itself to his mind, how far it was prudent, in the existing state of the country, to enter into a war with Great Britain, and whether our independence would not be retarded rather than hastened by this early contest? This was a question of infinite importance, and had he rushed blindly on, without regard to the consequences, he would have

been culpable for his rashness instead of deserving praise for his patriotism.

We are too apt, in looking back upon the scenes that preceded the revolution, to suppose that there was, from the first, a well regulated system of opposition to the crown. Nothing, however, is more distant from the truth. In the first stages of the dispute, our fathers would have regarded with horror many of the measures into which they were afterwards driven by necessity. But at the time of which we are speaking, the intelligent mind of Otis could not but have pierced the shades of futurity, and by connecting what was passed, with what he knew must follow, have conjectured the issue of the existing disputes. Well, then, might he have paused at this critical moment, to estimate the disposition and resources of America; to extend his view in every direction, to the past, the present, and the future; to weigh in the well adjusted scales of prudence, the various fortunes of his country, and ere he took the final leap, to survey the ground on which he stood, and the abyss into which he was about to plunge. But his resolution was soon taken; the spirit of the people would not suffer a retreat, and the only hope was in a successful termination of the conflict. From this moment he seized the helm, and with unfailing strength, and untiring skill, he guided the vessel of state in her dangerous passage, till he was disabled in the contest.

The activity of Mr. Otis in promoting the public good, could not fail of exciting the hatred of his political opponents; and they left no means unemployed that could tend to mortify his pride, inflame his passions, or affect his interest. Indeed, if we reflect upon his situation, we shall find it such as the most exalted patriotism alone could enable him to endure. Separated as he must have been from many valuable friends, by a difference of political sentiments, ridiculed by his enemies, and denounced as a traitor and a madman, he seemed to have no other consolation in his unhappiness but the purity of his intention and the affections of his fellow citizens. To him these were sufficient; and he was never heard to complain of the magnitude of his sufferings. But the measure of his misfortune was not yet full. It remained for him to submit to a calamity, in comparison with which, all that he had before suffered was trifling, and to lose in her cause, that splendid intellect that had so often adorned and preserved his country. After the publication of a paragraph in the Boston Gazette, which irritated one of the royalists by the name of Robinson, he walked in the evening to the British coffee house, where he was soon attacked by that same Robinson and his cruel coadjutors, and when alone, in the midst of his enemies, unaccompanied by a friend, with the lights extinguished and retreat rendered impossible, he was beaten and wounded, his head cut open, and from whence he was lead, bleeding and faint, a spectacle of ruin, the wreck of what he had once been. Whether this was a premeditated design, to take away the life of a man so important to the cause he espoused, or was the accidental overflowing of that envenomed spleen always entertained against him by the partisans of royalty, can never, perhaps, be determined. But on either supposition, it displayed, in the first case, a malice almost exceeding the bounds of human depravity; and in the other, a savageness of temper, more like the ferocity of barbarians than the moderated passions of civilized life. After having recovered the sum of two thousand pounds sterling of Robinson, in a suit of law for this injury of his person, he generously relinquished it, being incapable of retaining feelings of revenge toward one who had acknowledged his error, and estimating himself above the price of pecuniary satisfaction.

His public life was now at an end. After this attack, he was subject to occasional fits of insanity, and although he enjoyed lucid intervals, the strength of his intellect was destroyed. He was once, indeed, afterwards chosen representative from Boston, but he does not appear to have taken a very active part in the business of the house.

It is not probable that the blows he received upon his head in this encounter were the sole cause of his

insanity: that they accelerated its progress and increased its violence, cannot be doubted. Mr. Otis was a man of enthusiastic feelings, of an inflammable temper, and a wild and eccentric imagination. He felt with keenness the least suspicion of his honor, and was excited to a frenzy by the slightest imputation of his motives. His thoughts were always wandering in the regions of impossibility, and encamped upon the borders of illimitable space. Whatever tended to disturb the serenity of his mind, or set in motion the billows of his restless fancy, produced an excitement, that it was often beyond the power of his reason to control. It cannot be said that he wanted judgment; but that divine faculty did not always, as in the friend of Cowley, govern the ardor of his imagination, nor,

"—— like the heavenly moon did show,
Toss'ing that mighty sea below."

That man thus constituted, and placed in such irritating scenes, should at last lose the balance of his mind, and become the victim of the most distressing malady that falls to the lot of our suffering race, is by no means contrary to the principles of our nature; that this event should be hastened by the violence of fellow mortals, is shocking to the feelings of humanity. But his enemies could not behold his ruins without regret. The stern Ulysses is represented in the play as looking with compassion upon his deadly foe, when subjected to this cruel disease, for he felt his own liability to a similar fate, and acknowledged in the sufferings of a mortal the weakness of humanity.

Εγω μεν ουδεν' οἶδ' . ἐποικτειρω δε νιν
Δυστηνον ἔμπας καιτερ ὀντα ὀυσμενη,
Ὀϑ' ὀυνεκ' ατη ξυγκατεζευκται κακη,
Ο'υδεν το τουτου μαλλον ἢ τουμον σκοπων·
Ὀρω γαρ ἡμας ὀιδεν ὀντας, αλλο πλην
Ειδωλ', ὀσοιπερ ζῶμεν, ἡ κουφην σκιαν.
Soph. Ajax. 120—125.

Mr. Otis lived many years after he was subjected to this calamity, sometimes enjoying lucid intervals, when he was the delight of his friends, and when his mind broke forth from the clouds by which it was obscured with somewhat diminished lustre; at other times exhibiting the humor of an eccentric genius, rather than the aberrations of an accomplished intellect, and by turns excited to a frenzy that totally deranged his once powerful mind. The two last years of his life were spent in Andover, where, on the 23d day of May, 1783, as he stood at the door of Mr. Osgood's house, he was struck dead by lightning. As his life was one of no common interest, and as he was distinguished above his contemporaries by many extraordinary qualities, so his death seemed to be equally removed from the usual course of human decay.

Ἀ' νηρ γαρ ου στενακτος, ουδε συν νοσοις
Ἀλγεινος ἐξεπεμπετ', αλλ', ει τις βροτων,
Θαυμαστος.
Soph. Œdi. Col. 1663.

In judging of the characters and abilities of great men, we must go back to the times in which they lived, and compare them with the illustrious of their own age, before we can make a just estimate of their powers, or determine their merit with any degree of accuracy. It was the fortune of Mr. Otis, to live in a period fertile in distinguished men. Whether it is that great revolutions in civil society are the effects of powerful abilities, acting in concert to some important end; or whether as seems most probable, uncommon excitements in national affairs bring to light talents that would otherwise have lain hid, and in a manner create genius, by causing the demand that produces it; certain it is, that extraordinary men flourish in the greatest numbers in difficult times. Our own country forms an exception to this general remark. During the epoch of our revolutionary contest, there arose, both in the cabinet and field, a succession of mighty spirits, to whom, we say it without disparagement to the present age, it is our duty to bow with reverence. Among these Mr. Otis was in the foremost rank. For a period of nearly ten years he was looked upon as the safeguard and ornament of our cause; and while he retained his faculties, the splendor of his intellect threw into shade all the great contemporary lights. The cause of American independence was for a long time, identified abroad, with the name of Otis; and it was thought, foolishly indeed, that if he were taken away, that would perish. But while his importance was overrated, and his motives

falsely suspected abroad, his services contributed in no small degree to the establishment of our freedom.

The eloquence of Mr. Otis was fervid and vehement. With much less art in the composition of his speeches, and less taste than might be expected from a man of his classical acquirements, he carried away his hearers and was carried away himself by a rapid and impetuous torrent of fiery elocution. Disdaining artifice in all the transactions of his life, he seems to have carried his contempt of it into his oratory itself.—Without any labored exordium, without any ostentatious parade of oratorical skill, or attempts to rouse the expectation of his audience by "dreadful notes of preparation," without hovering over and playing about his subject, he soused down at once upon his prey, and as if conscious of his strength, and sure of victory, seized it with unerring aim and irresistible might. His arguments were clear and forcible, following each other in regular progression, and concluding with unavoidable certainty. His diction was simple and pure; but he frequently descended to too much familiarity in his illustrations, and impaired his dignity by his power of ridicule. His wit was keen and sarcastic, as well as playful; and in such abundance as is seldom found united with so much earnestness and force. His invective was terrible, the advocates of royalty shrunk abashed before him, and were unable to endure his withering glance. He was at times pathetic; but the bent of his genius rather inclined him to rouse the violent passions than to affect the mild. Finally, if we judge Mr. Otis by that criterion generally allowed to be the true one, the effect produced upon his audience, we must acknowledge him to have been one of the greatest orators our country has produced; and if it is true, as has been asserted by one of his distinguished associates in glory, that his speech against the writs of assistance "breathed into this nation the breath of life," his fame should be farther extended than that of any other orator, inasmuch as no one ever produced so great and permanent an excitement.

His abilities as a statesman were not inferior to his powers as an orator. In estimating his various merits, we are always to keep in mind the times in which he lived, and the disadvantages he was obliged to encounter. When he undertook the defence of our rights, the principles of free government were comparatively but little understood; but Mr. Otis seems at once to have placed the right of governing upon its true foundation Indeed, so clearly did he discern the fountain of power, and the end of its existence, so careful was he to maintain the right of the people to dispose of their own persons and property, that succeeding statesmen have been able to add little or nothing to the profound views of political science which he entertained. We have already spoken of his great reputation as a lawyer; and, if we add to his other accomplishments, his acquaintance with the various branches of polite literature, we shall form no mean opinion of the abilities of a man, who could distinguish himself by so many and different acquirements.

But Mr. Otis was no less remarkable for the purity of his life, than for the extent of his genius. During all that period in which he was engaged in a dispute with the oppressors of his country, when his character was not only scrutinized with the greatest malignity, but subjected to unfounded aspersions, he was never for a moment suspected by his friends, and even the credulous hatred of his enemies never believed him guilty of a crime. Few men have sacrificed so much in the cause of their country, and with so little prospect of personal advantage as Mr. Otis; and so evidently was his conduct contrary to all schemes of self-interest, that his enemies being unable to question his patriotism, and incapable of understanding his motives, attributed that to madness which was the result of the most exalted integrity. His sense of honor was delicate almost to a fault; as he was conscious of the purity of his intentions, and could not bear to have them even suspected by others. his temper was not always under his control; but it was always excited in defence of right principles, and yielded in a short time to the suggestions of reason. His conversation was delightful; playful, humorous, instructive, and amusing, he

never entered society withou exciting expectations of enjoyment, and never left it, without, at the same time, leaving behind him emotions of admiration and regret. If the consciousness of his abilities, and the eminent station he occupied in the eyes of the community, made him sometimes overbearing with those whose ignorance opposed the accomplishment of his pariotic purposes, his affability to his friends, his respectful attention to the rights of the meanest of his fellow citizens, and his constant readiness to give up his own ease for their welfare, must preserve him from the charge of haughtiness and pride.

The times in which Mr. Otis lived were unfortunate for himself, but in some respects felicitous for his reputation. The irritations and troubles incident to revolutionary scenes, could not but increase that constitutional tendency to insanity, that may be discovered in almost every period of his life. But on the other hand he was peculiarly fitted for the age, and the mighty and difficult events he was obliged to encounter; and although they were destined to shatter the faculties of his powerful but irritable mind, he was capable of converting them into means of securing the independence of his country, and of biulding up a glorious and permanent fame for himself. Had it been the will of providence to have placed him in a different circle of affairs, and in a more quiet age, he would certainly have been distinguished among his contemporaries, and perhaps have retained his faculties to the usual period of human life, sinking into his decline with the mild and full-orbed radiance of the setting sun; as it was, he shot "madly from his sphere," and left the world in noontide darkness.

It is by the study of the virtues and achievments of our own great men, that the youth of our country are to be roused to an emulation of noble deeds, and animated by a spirit of exalted patriotism. In vain will they look to the heroes and statesmen of antiquity, in vain will they admire the exploits of men of foreign climes, if they neglect the examples that have been set before them upon our own soil, and among our own kindred. There is no one so insensible as not to feel some attachment to his native land. In most men there is an affection beyond the power of words to express, to that soil which gave them birth, and to the scenes endeared by the recollection of youth. But whatever attachments may be felt for the material objects that constitute and distinguish our country, we are bound to it by still stronger claims, and by indissoluble ties. It is not the lofty mountains, the broad rivers, the expansive lakes, and the verdant fields, that enter into the mind and occupy the imagination, when we pronounce the venerable name of our country. Those mountains may still rear their summits to the clouds, those rivers may still run in majesty to the deep, those lakes still expand their bosoms to the breeze, and those fields wave in the luxuriance of harvest, and our country no longer exist but in memory, and the scenes of its former prosperity serve only to embitter the recollections of its fate. But when we think of our country, its laws and institutions, the manners of its people, and the freedom of its government, and, more than all, a love of the brave and virtuous men who have lived and still live within it, crowd upon our minds and oppress us with an excess of delight. It is this lively interest which we feel in the moral associations connected with our country, that makes the deeds of its great men so powerful an incentive to the attainment of glory. We look back upon the exploits of ancient heroes with wonder; but we feel little sympathy for the people whom they saved by their valor, and are almost unmoved by the recital of their actions. Indeed, time has so magnified by its delusive medium, the characters of those extraordinary men, that we regard with despair any attempt to equal their fame, and even look upon their existence with a sort of incredulous admiration. It is not so with the distinguished men of our own country. Born near our own times, and descended from the same ancestors with ourselves, we repose with confidence upon the story of their lives; and being allied to them in intellectual faculties, as well as by physical consanguinity, we feel that we are not unworthy to imitate their example. Indeed, we take a pride in

the fame of our ancestors, because it affords a presumption that we are not incapable of attaining to their glory. Again, we daily enjoy the fruits of the wisdom and valor of our countrymen. The blood shed by our heroes, has been shed in our defence; the talents displayed by our statesmen and philosophers, have contributed to the security of our liberty and the happiness of our lives. We cannot then, but be affected by those virtues, which have raised our nation to glory; nor can we not desire to imitate and equal those men, who have been the causes to us of so many blessings.—*G. P. Osgood.*

Robert Treat Paine, a distinguished stateman and lawyer who, took an active part in the affairs of the country for nearly seventy years, was born in Boston in 1731. He was descended from a good New-England stock, and had the advantages of a good classical education, under Master Lowell the elder, and was sent to Harvard College when quite young. On leaving college he was engaged in keeping school, then the common course of entering into the business of life after taking the degree of A. B. By the laws of Massachusetts, every town of 250 inhabitants was required to have a grammar schoolmaster, that is, one capable of teaching Latin and Greek. So that fresh graduates were in demand, as it was expected that a graduate would not continue more than a year or two in that situation, as only small wages were given; Mr. Paine in the first place studied theology, and in the French war of '58 as it was called, was a chaplain on the frontiers, and sometimes preached in Boston and its vicinity; but it is said he never offered himself as a candidate for the ministry, knowing the irrascibility of his temper, which he could never overcome. He now turned his attention to the bar, and soon made himself reputable in that profession, for his reputation as a man of talents was established before he came to the bar. Thinking that there was a better field for him at Taunton, than at Boston, he took up his abode there and opened his office. He travelled the circuits with John Adams, Jonathan Sewall and others, and held a high rank among those fine spirits. Mr. Paine was sent from Taunton as a representative and when Preston and his men were tried for the massacre of the 5th of March, 1770, he was required to supply the place of the Attorney General, then so indisposed as to be unable to attend to his official duties. This arduous duty he performed with great ability, and with satisfaction to the people of Boston then and now a fastidious people. When the Continental Congress of 1774 assembled at Philadelphia, he was found in that body as a delegate from Massachusetts. He was also a member the next year. In 1776 he was one the foremost in urging a Declaration of Independence, and immediate preparation for carrying on the war with all the energies of the nation. He corresponded with the great patriots of the time, and strengthened his own views by an interchange of sentiment with others. He continued his efforts in Congress or in the legislature of Massachusetts until a constitution was adopted by the latter in the year 1780, when he was appointed Attorney General for that state, which office he held until 1796. He then accepted a seat on the bench of the supreme court, which seat he retained until 1804 when he resigned on account of his deafness, but the same year was elected one of the state counsellors to advise the governor. At the close of this year Judge Paine retired to private life, and ten years were allowed him to prepare for heaven. Judge Paine was a man of high powers of intellect. He was a good, sound believer in the Christian faith and hopes. He was a highly reputable scholar, a faithful attorney—a splendid advocate, an honest patriot, an able prosecutor, and an upright judge. He would have enjoyed a ten-fold higher reputation than he did if it had not been for the austerity of his manners and a fractious temper. There was something in his conversation that had the charm of genius. To novelty of thought, he added an epigrammatic form of expression that gave point and power to all he said. He looked cheerful, when breathing asperities and was ready to do a kindness, while a sarcasm was on his lips. The public men of that day, particularly on the bench of justice, forgot the courtesy due to society, and particularly to the younger members of the bar.

William Paca was born October 31, 1740, at Hartford, in the state of Maryland. He received a good education at the college in Philadelphia, after which he studied law with Stephen Bradley, at Annapolis, in 1759, and soon became conspicuous. He was a member of the legislature in 1771, was a favorite with the people, and with Chase took part against the Governor. In the year 1774 he was member of the continental congress, and continued to act with that body until 1778. This year he was made chief justice of the state of Maryland, and in 1780, he was appointed chief judge in admiralty cases. In 1782 he was chosen chief magistrate of his native state. He was a patron of literature and religion in his high office. In 1789 he was appointed district judge for the district of Maryland. He died in 1799, in the sixtieth year of his age. He was graceful, courteous, a lover of literature, a scholar himself, and a promoter of all that gave information to his fellow citizens.

Elihu Palmer, one of the most distinguished apostles of Deism that has appeared in the United States, was born in or near Norwich, in the state of Connecticut, about the year 1763. He was educated at Dartmouth College and graduated in 1787. while in college he had the reputation of being a good scholar and a very upright man. Doctor Allen has fallen into an error in saying that he was blind from his youth. His loss of sight was occasioned by the yellow fever in Philadelphia in 1793, and Dr. Rush thought it was because he refused to be bled. After leaving college he read divinity a short time with John Foster, D. D. at Brighton, near Boston, then called Little Cambridge. He then ranked among the Orthodox, but it was soon discovered that he was more liberal than his brethren of that order. He was settled awhile at Newton, on Long Island, and then was converted to Deism by a physician by the name of Ledyard. They were soon engaged in propagating the doctrines of infidelity. Palmer did not at first come out openly, but left the Presbyterians and associated himself with the Universalists, but soon deserted them, and openly avowed his disbelief of the divinity of Jesus Christ, and advertised in the Aurora of Philadelphia, that on a certain day he would preach upon the subject. This was so shocking to the feelings of the community that a body of Christians of all denominations assembled, and by personal violence prevented Palmer from entering the house of worship. He now relinquished his profession as a preacher, and repaired to the residence of his brother, in the western part of Pennsylvania. With him Elihu read law, and was admitted to the bar in Philadelphia, and commenced business: but in a few months after he opened his office, the yellow fever swept over the city and caused the death of his wife, and his own blindness. He tried to practice law notwithstanding his loss of sight, but could not get on, and gave it up. He now resumed his office as a preacher of Deism. In the first place he went to Georgia and found an audience in Augusta, where he spent a year, disseminating his principles with great boldness. In 1796 he commenced a course of lectures in the city of New-York. A society was formed, which without disguise assumed the name of "The Deistical Society." Palmer advocated the name, while some others not so bold, were in favor of calling it the Theophilanthropist Society. This society did not exceed an hundred in number; nor was he confined to them altogether as a teacher, for he often made excursions to Baltimore, Philadelphia, and to Newburgh, up the North river. He travelled without attendance, having acquired a faculty of locomotion that was astonishing to those who are unacquainted with what the blind may be taught to do. His last excursion was to Philadelphia in an inclement season in the winter of 1805. Soon after his arrival there, he was attacked with pleurisy, which in a few days terminated his existence in the forty-second year of his age.

Mr. Palmer was eloquent and solemn in his address. His voice was strong and sonorous, and his thoughts came rapidly, and his words flowed in a fine current. He appeared to preach with a sincere conviction of the truth of his doctrine. His moral character was unquestionably good, and there were many in his society who were men of no ordinary minds. Their great apostle of Deism has now

been dead 28 years, and the society has in some form, but under a different name, held together, but not increased. Palmer in his discourse, prophesied that it would not be twenty years before his doctrines would spread over christendom, and even over enlightened America; but he was not a true prophet; religious houses are still crowded, village spires still rise up as so many electrical conductors to carry away the wrath of God for the sins of the nation, and it may be said of the good people now as was said aforetime.

"They gladly thronged their grateful hymns to raise,
Oft as the holy Sabbath shone,
The mingled tribute of their prayers and praise
In sweet communion rose before the throne

Here, from those honored lips, which sacred fire
From Heaven's high chancery hath touched, they bear
Truths which their zeal inflame, their hopes inspire,
Give wings to faith, and check affection's tear."

The facts in this brief notice of Elihu Palmer are chiefly taken from a memoir of the preacher of Deism, by Col. John Fellows, who knew him well, and whose pen never wrote a line that his judgment did not dictate.

Isaac Parker was born in Boston, June 17, 1768. His father was a merchant of that town, but met with reverses of fortune in business while his son was quite young, which gave an impetus to the exertions of the boy that had its good effects throughout his life. The town schools of Boston have long been a theme of praise in this country, and to one of them, the grammar school, Isaac was sent to prepare himself for college. At the age of fourteen he entered Harvard University, and, notwithstanding his extreme youth, he became distinguished in the class which was graduated in 1686. In it there were many distinguished men, who loved and respected the late Chief Justice from his childhood to his death. After leaving college, he acted as a tutor for a short time, in the grammar school in which he had received the rudiments of his education, but this occupation not being suited to one who felt that he was entitled to hold a high rank at the bar, he resigned his place, and entered into the office of the late Judge Tudor, a gentleman of taste and talents, and of great urbanity, to study the law. The constitution of the United States was adopted about the time he finished his law studies, and the effect that it would have upon the country was not then ascertained, but Parker believed that if it was a blessing to the older part of the community, its beneficial influence would be felt in the new settlements. His family having lately removed from Maine to Boston, his thoughts were turned towards that district, it then being regarded as a good place for the exertion of his talents. Accordingly he established himself at Castine. It was a recent settlement in a prosperous condition, and he was determined to grow up with it. In a few years he became the most popular man of his age in Maine. His manners, although refined, were familiar, and he made his clients his friends by his assiduous attention to their causes and by his ability in conducting them. One instance of his conduct at the bar in this early period of his life, is deserving of record. The present Archbishop of Bordeaux, the Fenelon of this age—was then a humble Catholic priest, who resided principally in Boston, but had some small congregations in Maine. To these he made yearly visits to administer the consolations of religion—on one of these occasions he was indicted for, marrying a couple of his own religious creed, and also members of his church. When the trial came on he was put to the bar between two felons. Parker volunteered to defend the young clergyman who cheerfully accepted of his services, but requested the liberty of offering, in the first place, his own veiws of his rights to the court and jury. This was done in so clear and forcible a manner, discovering such a knowledge of constitutional law, that the attorney-general entered a *nolle prosequi* on the bill at once, and Parker introduced Doctor Cheverus to the court and bar as a man of exalted piety and high acquirements. The doctor had friends in Maine—and they all became the friends of the young lawyer. Such was his popularity, that he was induced to stand as a candidate for Congress, from his district, and found himself in that body when he was but little past thirty years of age. It was a period of grea

political agitation when he entered the house; but those who had been previously there soon discovered that he had peculiar qualifications for a politician, and hailed him as a great acquisition. He had however sagacity enough to see that the life of a politician and a successful country practice in this profession of the law were quite incompatible, and he prudently declined a second election. His character being known to President Adams, he appointed him Marshal for the district of Maine, which office he held until the accession of Mr. Jefferson to the presidency in 1801. He now removed to Portland —the largest commercial town in the district, and was in full practice in 1804, when he was offered a seat on the Supreme Bench of the Commonwealth. This he declined, but two years afterwards was induced to accept an appointment to the same office by the earnest solicitations of his friends in Maine and in Massachusetts Proper. In March, 1806, he made his first appearance as a judge in the county of Essex. The grave people of that county had been accustomed to see grey-headed men on the bench, and were surprised to find one so young take his seat at a *Nisi Prius* term of the Supreme Court at Ipswich. At his first appearance, on examining the criminal calendar he found an indictment for a riot, against several of the inhabitants of Salem, which had been before a jury for several years, at almost every term of the court in this county: but the government had not been able to get a verdict, as the juries would not agree to one. The prosecution and the defence had in them the essence of party fury. It would have been a miracle to have found a jury that could have agreed. In this state of things, the young judge inquired of the attorney-general, if he thought there was not a great propriety in entering a *nolle prosequi*, as the trials had made much more disturbance than a dozen riots. The hint was seized, and the long contested case was dismissed, after costing the Commonwealth no small sum of money, and the defendants still more. In the autumn of the same year 1806, came on the trial of Selfridge for shooting Austin, in the streets of Boston, a memorable case. Chief Justice Parsons was now on the bench, and at the opening of the Court in Suffolk, made the usual charge to the grand jury. The friends of the deceased made many objections to the charge, but every word of it was sound law, and has since been so held in most of the States of the Union. In this state of excitement Judge Parker came to hold the *Nisi Prius* term after the term had closed. The bill found by the grand jury was only for manslaughter. Parker took up the case in its usual course, and tried it with so much fairness and promptness, was so ready to give an opinion on every point suggested, that even those who thought highly of him before were astonished to find him so ready to meet any exigency. The result is well known—Selfridge was acquitted—party spirit was raised to the highest pitch, and the repose of the city threatened, when the verdict was brought in, but so upright, impartial, lucid, and correct, had been the course of the judge, that his praises were sounded even by those who were much disappointed at the result of the trial. From that hour he became the favorite judge of the Supreme Court, notwithstanding there were some of the greatest men of the age on that bench at that time, Parsons, Sedgwick, and Sewall, minds of the highest order and enriched with the profoundest acquirements.

In 1813, Sedgwick and Parsons died, and Sewall was made Chief Justice. He was one of the best commercial lawyers of the age, had been in Congress, and there took the lead in matters both commercial and naval. The Commonwealth in the midst of their grief at the loss of the two great lights of the law, were happy to think that such a man was left them for Chief Justice as Samuel Sewall; but before a twelvemonth had elapsed, he too was numbered among the dead. Judge Parker was then made Chief Justice with the fullest approbation of the bar and public. He took the office with diffidence.—The great men who had proceeded him had won an imperishable reputation and it was now beyond the control of accident, but he took the office with the full confidence of the public.

In 1820, when a convention was called in Massachusetts to revise the state constitution, after Mr. Adams had declined the Presidency, to whom it was offered as a well deserved compliment, (although the acceptance of such an arduous office could not have been expected from one who had numbered eighty-five years;) Judge Parker was elected President without opposition. In this body, formed of the greatest men that ever had been assembled in New England, he was conspicuous, and although not trained to the rules and orders of a deliberative assembly, yet such was his readiness in seizing all the nice distinctions in the machinery for governing legislative bodies that his decisions were almost always acceptable to the convention. In the committee of the whole, when relieved from the duties of the chair, he took a spirited part in the debate, and often had the happiness of reconciling contending opinions.

For several years before his death, down to near the time of his decease, he was a professor of law in Harvard University, and gave a course of lectures yearly. How far he advanced in the work, and what portion of the great field he had explored, we are not able to say; but any thing from his pen on such a subject must be valuable not only for the information it contains, but also for its style.

The manner of Judge Parker in trying a cause was as pleasant as in his common conversation, which was always delightful and commanding; there was no want of dignity in his ease, but he met every thing with so much candor, and discovered so much patience that the advocate, the witness, and the jurymen, were all in the full possession of their faculties; and the trial of a cause went on under his care more rapidly than in that forestalling, catching, snubbing, and hurrying method so often practised by ordinary minds when elevated to the bench. In presiding at a capital trial his manner was above all praise. He was anxious to put every thing, that made for the prisoner, in a true point of view. He exhibited nothing in the course of the examination of that feverish sensibility which some of our best philanthropists indulge in, nor exhibited any of those hard features which some great judges think they must assume, when they lift the sword of justice over the head of the prisoner. He calmly sat and heard the defence of the unfortunate, (for every one must be considered unfortunate who is subjected to a trial for life, innocent or guilty,) with a solemnity suitable to the occasion; but never discovered any agitation in the most appalling case. However late at night it might be, when the council had closed, he never adjourned for his own convenience; and however weary he might be when he arose to charge a jury in a capital case, he was as minute and patient as at the commencement of the trial. When the famous highwayman Michael Martin was tried for robbing Major Bray, near Boston, in the county of Middlesex, as the Chief Justice finished his charge to the jury, and the pannel had retired to deliberate, one of the advocates in the defence said to the prisoner, Michael, you cannot object to that charge. No, counsellor, he replied. "There was no touch of Lord Norbury in that, the Judge speaks like a man who has a soul; and as good father O'Riley used to say, he is not one who dooms you to death, when he knows you have a chance to die some other way." In pronouncing sentence of death on a criminal, he endeavored to set before him the extent of his guilt in a clear and faithful manner, and urged him to that repentance which leadeth to life everlasting through the merits of a Redeemer, but he avoided that tasteless rant which is so frequently exhibited on the bench on such occasions. When the Chief Justice had passed the sentence of the law upon the condemned, the wretch often seemed to be still listening to his voice, wishing to hear something more from him who had sentenced him to an ignominious death, because his voice was so kind and his rules for a repentance so rational. This was in imitation of him who never lacerated the bosom in attempting to cleanse and to heal.

Judge Parker was a good lawyer, but never suffered his partiality for the antiquated looks of a year book to overrule the good sense of more modern authorities. His mind was

capacious enough to see the nature of improvements, and he had independence enough to be an optimist in all things, where he had a choice of authorities. In his reasoning on a point, the technicalities of the law seemed to be to him what the Scotch names of hill and dale and lake and cavern were to the Poet of Abbottsford, in his easy rhymes, just such things as he wanted to fill up the line. It is seldom that legal opinions are expressed in tolerably good English, but if we look to Parker's opinions through a long course of years in the Massachusetts reports, there will be found a neatness of style that is worthy of imitation. It is succinct without being abrupt, neat without any attempt at prettiness, and full of good choice words of a well-settled meaning. The current of his thoughts is easily followed, and the commonest capacity can discover the precise meaning he intended to convey. He felt right, saw clearly, and judged honestly. He had no superabundant stores of learning *to make him mad*, or lead him widely astray; nor could he have felt any want of intelligence, to cause him to hide his deficiency under the gravity of common place remarks. His miscellaneous productions are all marked with purity, ease and elegance. In them there are no throes of genius, no seeking after fame, but they are plain and simple, as if he had read no other models than those of St. John and Addison. He was a lover of works of taste, and the severest studies of his profession were often better accomplished by relaxing for a while to indulge in reading them. He was a member of many of the societies in the city and neighborhood of Boston —the Phi Beta Kappa—the American Academy—the Bible Society, and many others, and was always willing to perform his share of the labor incident to such offices; and in the church he was not a whit behind the most zealous in doing good.

For more than a quarter of a century he was the most influential man in the commonwealth of Massachusetts. This influence was noiseless and constant, it was found in the temples of justice, the halls of legislature, in the seminaries of learning —at the ballot-boxes—on 'change— in the social circles—every where; it fell like the dews of heaven, and although it could hardly be told when it ascended or descended, its existence could not be doubted. If, sometimes, he mistook character, (for who is always wise and discriminating?) this influence was used better, probably, for the whole course of the time it existed, than of any other person in that or any other region.

Chief Justice Parker was married young, and from his bridal hour to that of his death was an example of domestic happiness. His house was the abode of easy and plain hospitality. He had no covetousness or avarice in his nature. He wished for competency, and was content with it. He enjoyed life to the last, seldom disturbed by indisposition, for he was temperate in all things. He died by apoplexy, on the 25th of July, 1830, after a long combined exertion of official duty. His father and several of his ancestors had died by this disease, and his own conformation intimated very distinctly to him that this would probably be his fate. He lived in preparation as well as expectation of the event. This is all a mortal can do. To sum up his character in a few words; he had genius without eccentricity, and learning without pedantry. In him firmness was united to flexibility, and delicacy with decision. He was affluent in thought, and was never obliged to have recourse to a rigid economy in the use of his knowledge. His enemies were few, and his friendships many. If the latter had not much of ecstasy in them, the former were free from all malice. If the proportions of his intellect were not colossal, they were in the perfect stature of man, and therefore more worthy of imitation. After a long life spent in the public service, he died poor July 25, 1831, in the 63d year of his age; and the citizens of Boston, with a munificence which characterizes that place, immediately made, by voluntary subscription, that provision for his family, which his services, as a public man seemed to require of the Commonwealth.

Timothy Pickering was born at Salem, Massachusetts, on the 17th of July, 1745. His ancestors came to this country at a very early period: their connexions were among the commonwealth-men in

England. He graduated at Harvard University in 1763, at the early age of 18. He entered his brother's office as a student at law, and at the same time officiated as clerk in the registry of deeds, and was afterwards elected to the office of register. His talents soon made him conspicuous, and he was in command of a regiment of Essex militia when the war broke out. On the news that the British had marched to Concord, on the 19th of April, 1775, he called out his regiment, but did not reach Charlestown in season to annoy or cut them off on their precipitate retreat. Colonel Pickering had all the elements of an excellent soldier in him. Quick-sighted, prompt, and determined, he felt the cause of his country, and inspired confidence among his men. He made great exertions to discipline, not only his own regiment, but the officers in the county, which was then the largest in the State, received much information from him. He was appointed judge of the Admiralty Court, which had been established by Congress. That body had divided the several states into districts, for the facility of deciding upon prize questions, and other maritime matters. The appointment of the judges was left however in the governments of the several states of the confederacy. The people, oppressed by the Boston port bill, took a decided stand in every part of Massachusetts, particularly on the sea-board. The inhabitants of Salem called a town-meeting, and voted a spirited address to General Gage. This production was from the pen of Colonel Pickering, and has been much admired for its dignified and manly character. Colonel Pickering with Colonel Mason, Major Sprague, and the Rev. Mr. Barnard, by their bravery and decided movements, prevented the British Colonel Leslie from marching to Danvers to destroy some stores and ammunition, provided for an emergency in that town. This was on the 26th of February preceding the battle of Lexington.

When the forces were called out for the campaign of 1776, Colonel Pickering was active in raising recruits, and was so successful, that in a short time he found himself at the head of a respectable regiment, which at once marched to join the main army, that had then retreated from the state of New York to New Jersey. The commander-in-chief soon saw his merits and appointed him adjutant-general, which office brought him near the person and in the councils of that great man. Colonel Pickering was in the battles of Brandywine and Germantown. He was also elected a member, with General Gates and Mr. Mifflin, of "the Board of War." Wherever he acted, the deed was marked with vigour and decision. In the summer of 1780 he succeeded General Greene as quarter-master-general. It was indeed a difficult situation, for notwithstanding all the talents and popularity of Greene, he found that he could not give satisfaction to the army and the people. Colonel Pickering had above all men, except the commander-in-chief, the most extraordinary habits of putting every thing into the most exact method. He was successful in this department, and by order and perseverance brought all things into a prosperous channel.

After the war, and when the constitution of the United States was established, and had been in operation a short time, Colonel Pickering was made postmaster-general, and was assiduous in giving system to this important branch of our government. While in this office he was appointed by Washington to make several treaties with the different tribes of Indians. He managed this business with great judgement, for he understood the Indian character. He met them with kindness, but with firmness;—they soon saw that he was not only *a brave*, but also *an orator*, and they had sagacity enough to understand that he was a man of integrity as well as of eloquence and courage. He at this time was in frequent correspondence with Thomas Eddy and other Friends on the subject of civilizing the aborigines. He gave them at that time, and when he was secretary of state, all the facilities in his power to advance their great work of philanthropy. In 1794, when General Knox retired from the department of war, Colonel Pickering was appointed his successor. He held

this office for a year or more, when he was appointed secretary of state; the duties of the office he had for some time discharged while secretary of war. In May, 1800, Mr. Pickering was dismissed from his office of secretary of state by Mr. Adams, the president, for the selfsame cause on which divorces were once decreed in France,—from *incompatibility of temper*. On retiring from political life he pushed into the woods of Pennsylvania to commence as a *clearer*. A log hut was erected, and the work of subduing the wilderness was rapidly going on, when his old friends in Essex county, Massachusetts, being unwilling that so worthy a citizen should spend his days as a backwoodsman, proposed to bring him back again to society, by purchasing his lands for a sum that might enable him to live in Essex. He purchased a farm in Windham in his native county, and was a farmer until his death. From his native state he was sent a senator to Congress, and held the office for a long time. In that body he was so discreet and explicit, that he won the respect and sometimes the admiration of his enemies; John Randolph, the most eccentrick of all human beings, was constrained to bear testimony to his discrimination and integrity. After his term as a senator had expired, he was chosen a representative to congress from his native district, and bore his part most patriotically. While he was in congress, he was a judge of the court of common pleas in his native county, but his field of fame was not as a judge; for he reasoned too much upon general principles to be safe upon accumulated precedents. His life was full of incident. When at his farm in the valley of Wyoming, in the summer of 1788, he was forcibly abducted from his fire-side and conveyed into the woods by a lawless banditti disguised as Indians. They confined him to a tree, and threatened to take his life if he did not act in opposition to what he thought his duty. They had a man of iron to deal with;—he did not flinch at any threats or insults, but bore them all as a patriot and philosopher, to their surprise and admiration. He was for nearly twenty days tied to a tree, without hardly food enough to sustain nature; but he never faltered, but slept and conversed as if the shade of the tree under which he was confined was destined to cover his ashes for ages. He was liberated, and when he returned home his friends hardly knew him, he was so changed by such brutal treatment.

Colonel Pickering was a man of a robust constitution, and even in his old age laboured as Cincinnatus at the plough. The writer of this article was acquainted with Col. Pickering, and on being called upon by an English gentleman to introduce him to the great farmer of Windham, he consented to do so. It was a fine morning in the first part of the month of August, when he conducted his friend to the farm of the great statesman—feeling a delicacy in calling so early in the morning,—but his friend's urgent business was to be offered as an apology in this case; but it was not wanted, for the man who took our horses showed us a tall, athletick, bald-headed man, without coat or hat, mowing at a great rate in a field of well grown grass; that, said he, is Timothy Pickering, the soldier and statesman. When the veteran had finished his swath, we approached him; my friend was introduced—the colonel dropped his scythe, led the way to his house, and gave us a most abundant table of refreshments. The conversation was general. The cultivator of the soil was ready in every thing that related to past or modern times in the history of our country. The conversation by some accident turned on the art of painting. "The old man eloquent" gave us many anecdotes of the first painters of our country, and especially of Brown, Johnson, and Stewart. In the part of his country's history which related to the revolutionary war he was indeed at home, and loved to dwell on the romantick part of it. He brought Washington, Hamilton, and all that class of men, as distinctly before you as if he had the power of calling spirits from the dead. I never knew a man of stronger powers of description when he chose to exert them. He was robust in his constitution, and in his habits severe to himself. Had he lived in earlier ages, he would

have been held up as a Phocion in his manners. He was temperate, industrious, and bold, regarding no man's opinions any farther than he believed them sound and honest. He went onward, his own guide and his own example, turning neither to the right hand or the left, for favour or applause. He loved property, and was fully aware of its influences and advantages, but he would not turn on his heel, if out of his course, to be made rich. He was a republican of the highest order, such as Greece and Rome once boasted in their better days. There was something about his reasoning and habits, that seemed to many as better fitted to other times than to our own. His firmness had not unfrequently the semblance of obstinacy; and the youth of the age, when he appeared as a Nestor, thought that his sternness and severity of thinking and acting was out of place, and not in consonance with the current of modern feeling; but the more they have contemplated the subject since, the more they admire those Spartan virtues, which they did not then fully understand. His whole life was passed in times of excitement, and he was not backward in taking his share of responsibility in every thing. He never pretended to be learned, or to draw his illustrations from classick ages, but came directly to the subject under discussion, and spoke of men and things of his own time, as though they were all passing that instant before his eyes. Alexander Hamilton as a soldier, statesman, and man of genius and of talents, was among the subjects of his constant thoughts, and highest consideration. The virtues of that great patriot he never lost sight of in publick or private. They were his theme of eulogy in all companies. All that opposed the departed patriot were stark naught with him; all who loved him had at least one redeeming trait. There was an enthusiasm in his praises of the dead, that showed the deep sincerity of his friendship, and the firm convictions of the great qualifications of the man whose loss he deplored. To him Hamilton was a union of Numa and his muses, and of Cesar with his philosophy and sword.

It is not recollected by the writer of this article, that Colonel Pickering ever wrote any elaborate work, but he often used his pen to enlighten his fellow citizens, by writing publick letters, addressed to distinguished individuals. These letters were on different subjects, mostly political. One of his most energetick productions was addressed to Governour Sullivan on the embargo. This was followed by others to the people on the state of the times. The last of his works, we believe, was a review of the correspondence between John Adams and William Cunningham, in 1824.

He died at Salem on the 29th of January, 1829, in the eighty-fourth year of his age. His family are distinguished for talents and virtue.

Edward Payson, D. D., was born at Rindge, in the state of New Hampshire, in July, 1783, and was graduated at Harvard University, in 1803. His father was a distinguished clergyman, and well known as author of several occasional sermons, and also for an edition of Barruel and Robinson's work on Illumanism. The son was considered a good scholar while in college, rather more remarkable for the power of acquisition than for original thought. On leaving college, he took charge of an academy in Portland. While in this occupation he became religious, and plunged deep into the mysteries of godliness. His whole character became changed, and he now was as distinguished for originality of thinking as he had been for the acquisition of knowledge. All his stores of information seemed melted and purified by the intensity of his thoughts and the fervour of his feelings. He was settled in Portland in the ministry, in the year 1807, as a colleague to Dr. Kellogg. For twenty years Dr. Payson performed the duties of his office with the most burning zeal for the cause of his Redeemer. Like the saints of old he had the good of men's souls at his heart, and laboured incessantly in his high vocation. For several years before his death it was evident that his constitution was sinking under his great efforts, but he never repined at his fate, for his reliance was on his God, and he believed that he had directed all things for the best If since the days of St. Stephen, a martyr's face ever shone

as an angel's with holiness, it was Dr. Payson's. A friend who had not seen him for many years, but knew much of his reputation, met him at a country inn, when he was making an excursion on horseback to Saratoga Springs, after his indisposition became severe. He had forgotten the person of his early acquaintance, and he wished not to be known until he had made some efforts to ascertain the fact of the great change in the character of his mind, which had so often been a subject of discussion among those who knew Dr. Payson when he was in college. A conversation, as was natural, took place as they were seated at the dinner table. From common-place topicks the conversation was led by the inquirer to the subject of theology. The Doctor was pushed on some points with much earnestness, and no inconsiderable learning. He roused himself, and poured out the store of his memory with great accuracy and pathos. For a day or two they were together much of the time. In supporting his creed he seemed to forget his weakness; and when his companion desisted, from a fear that so much effort might be injurious to him, he would bring on the subject anew, apprehensive that he should lose an opportunity of defending those doctrines, so precious in his mind. At the Springs they were introduced to each other; and the Doctor for the first time discovered, that the dialogue was only brought on and continued to test the truth of the opinions of his later friends, on the change of his characteristicks. The traveller has often been heard to declare, that he had never known a theologian whose views seemed to enter so far into eternity, as those of Dr. Payson. Dr. Payson had drank of the waters of life deeply, and was soon to pass away: neither the Springs of Saratoga, or travel, had any beneficial effects on his health. To the last moment of his existence he supported not only the truth, but the sublimity of his profession, by his composure, his firmness, and by his aspirations after immortality. A volume of his sermons have been published, and support his fame, which is a rare case for a popular preacher. The quiet and cold reader seldom catches the high feeling of those who hang on the lips of an admired preacher the solemn truths of the gospel. Dr. Payson published a discourse on the merits of the Bible, which has been extensively read and admired by all classes of Christians. What book of ancient or modern times can be put in competition with it? The history of the Bible is beautiful; its morals elevated, and its divinity the most sublime of revelations. The character of such a man as Dr. Payson is a study, and should be held up to view, as showing the influence of religion on the mental powers, as well as on the affections.

Thomas Parker, one of the first settlers of Massachusetts, was born in 1595. He was a student at Oxford, but pursued his theological studies in Ireland, under the celebrated Dr. Usher. Not thinking it safe to return to England, he went to Holland, where a large number of the puritans had formed themselves into a church, under the protection of the laws of Holland. The times becoming more quiet, he returned to England, and preached at Newbury. In 1634, he came to Massachusetts, and took up his residence awhile with the people at Agawam, which is now known by the name of Old Ipswich, about twelve miles from Salem. The next year he commenced a new settlement, about eight miles from Ipswich, and called it Newbury, in honour of the town in England where he had been an instructer and preacher. He selected a lovely spot for a farm, and the river which flows by it now bears his name. He was joined at Newbury by James Noyes, a learned clergyman, who had been an instructer with him in Newbury in England. These distinguished scholars soon built up a church, for the soil around them was good, and this united to their fame, caused Newbury to settle very rapidly. These friends lived in the same house, as Parker was never married, pursuing their studies most diligently; and probably at no time since have there been in this country, or in England, such profound Oriental scholars. These good men, though well provided with this world's wealth, taught many young men before they entered Harvard College and after they had graduated. A blessing has followed

their labours. The few miles around their residence has, in later times, been a spot favoured as the birth place of men of genius and learning. Theophilus Parsons, whose fame as a lawyer and judge is second to none in the annals of our country, was born there, as well as four brothers to him, all men of genius. In this place too, was born Eliphalet Pearson, a professor at Harvard College, and also at the Theological Seminary at Andover; a ripe scholar, with a sturdy understanding. Samuel Weber, the mathematician, who died president of Harvard College, was also a native of this town. And the learned John Smith of Dartmouth College, a professor of languages, claims Newbury for his birth-place. These were not all of the learned Thebans of that town. The Dummers and the Sewalls of an earlier age hail from Newbury; nor is the place wanting in honours now. But to go back to Thomas Parker: he was afflicted with blindness, by his incessant application to his studies, but he was never idle, for he listened to the reading of his friends and pupils, and often dictated sermons and other works. He showed a superiour philosophy to Homer, Ossian, or Milton, for he never deplored his blindness, but rested all upon the faith of his religion. He used pleasantly to say, "the resurrection will restore my eye-sight."

Mr. Parker wrote several things that were printed, but many more that never saw the light. Several Hebrew manuscripts are said to be in the family of his friend, Mr. Noyes, at this day.

Mr. Noyes published a larger number of works than his colleague. Some of them have been preserved, and are indeed curiosities. Noyes was considered the most learned man of his time. Among his descendants, for many generations, were to be found the most enlightened clergymen in the country. Three of his sons settled in the ministry in Connecticut, and were eminently useful in their day and generation. A descendant of his, the Rev. George Noyes, is now a clergyman in the state of New York, who has translated a portion of the Old Testament in a very excellent manner, proving that he is as well acqainted with Oriental literature as his ancestor was.

In the parish built up by Mr. Parker and Noyes, there has been a long line of distinguished pastors. Christopher Tappan, a learned divine, was succeeded in the first part of the last century, by John Tucker, D. D., one of the most acute controversialists of his age. He published several works which proved his skill in polemicks. He was succeeded by Mr. Moor, who held a high rank as a scholar. At his death, the pulpit was supplied by the installation of John Snelling Popkin, D. D., a splendid Greek scholar, and profound divine; and when he was transferred to a professorship at Harvard University, the Rev. Mr. Withington, now a burning light in the church, was his successor.

This classical ground, though naturally beautiful, bears no particular marks of refinement or taste. One generation after another has passed away, and left no traces of their genius in their native village. There is one exception to this general remark,—the Parsonses have built a palace and cultivated a garden where the humble mansion of their good father arose, and where they sported in their infancy, as they attended the village school.

Samuel Parker, D. D., bishop of Massachusetts, was born at Portsmouth, New Hampshire, in the year 1745. He was educated at Cambridge College, and graduated in 1763. After leaving college, he was an instructer of the grammar school in Newburyport for several years. Two years before the revolutionary war broke out, he went to England, and was ordained by the Bishop of London; and, on his return in 1774, he became an assistant minister at Trinity Church in Boston, and in a few years afterward was made rector. He continued in Boston during the war, except, perhaps, for a short time after the battle of Bunker-Hill. After the death of Bishop Bass, who departed this life in the autumn of 1803, Dr. Parker was elected the second bishop of Massachusetts. This high station he did not long enjoy. He died suddenly, December 6, 1804. He was a gentleman of courteous manners, and of good affections. He published but little—a few occa-

sional sermons—but all he wrote was marked with taste and scholarship. He left a numerous and respectable family. Two, or more, of his sons are in the profession of divinity, and two of them in the law.

Elijah Parish, D. D., was born in Lebanon, Connecticut, November 7, 1762, and graduated at Dartmouth College, 1785, and two years after was settled at Newbury, in the county of Essex, Massachusetts, in the Byfield Parish. He was a man of talents, and of extensive acquirements, zealous in every thing he engaged in. His productions abounded in brilliant expressions, often reaching the very verge of propriety. His temperament was too ardent for his profession; but no one ever charged him with want of honesty or sincerity. In the embargo times and during the last war, some of his sermons were inflammatory and mischievous, for they roused the passions of those the discreet part of the community were struggling to control. He made great exertions with the officers of militia to enter into agreements not to go out of the country to battle; but there were men of influence enough among them to prevent him from effecting his schemes. His opinions were spread far and wide, and quoted as the opinions of the people of New England, generally; but few of them were so high-toned as Dr. Parish. He was an author of reputation. His ordination sermons, his eulogies and histories, were all deservedly popular, for he wrote with honest warmth and with more than ordinary care. His Gazetteers of the Eastern Continent, and of the Bible, passed through many editions, as also his Modern Geography. His parish was small, and all of his parishioners were much attached to him, and of course he had no enemies about home to make him cautious in speech, and as all his hearers were with him in politicks, he gave a freedom to his pen and tongue that but few clergymen ventured upon, and which was seriously injurious to him, but more particularly so to his party. He died at Byfield, October 14th, 1825, aged 62, and was much lamented, not only by his parishioners, but by a large circle of friends. The day of excitement had gone by,—all his political prophecies had failed,—and his fears had passed away also,—and there is every reason to believe that he had seen the impropriety of a teacher of the peaceful doctrines of Christ, being found in the bustle of the forum or in the noise of the commitia. He had been in the quiet pursuits of learning for the space of ten years, the storms of party rage forgotten, probably calculating upon a peaceful decline of life, when he was suddenly called to leave the world for a state of existence where no party feuds are found, nor questions of government discussed. The life of this worthy man of talents, and acquirements, and religious fervour, properly read, would be an excellent lesson for those who take upon themselves the holy office of priest, not to destroy the good they might do in their high vocation by assuming to be political leaders and furious partizans.

The person of Dr. Parish was small, but his countenence beamed with intellectual light. His eloquence was of a high order. He spoke with ease, grace, and propriety. He could be easily heard in the largest houses of publick worship, and when he preached in the large towns always drew a numerous audience. Those who deplored his political course were among the first to acknowledge his talents, his piety, and literary attainments.

Eliphalet Pearson, L.L. D., was born in Newbury, in the county of Essex, and commonwealth of Massachusetts, in 1752, and was graduated at Harvard University in 1773. For many years he was principal of Phillips' Andover Academy, which at that time was the first seminary of the kind in the state, having no rival in the country, except Exeter Academy in New Hampshire, founded by the same munificent and pious family. Dr. Pearson was a strict disciplinarian, and made his boys scholars by the rod, if they would not be so by choice. From Andover he was called to Cambridge University as a professor of languages, which office he held for twenty years, discharging his duty with great faithfulness. After leaving Cambridge he commenced preaching, and was quite popular

notwithstanding his years. Although an excellent and learned instructer, his compositions had too much of the grammarian and schoolmaster in them to be elegant. When the theological institution was established at Andover, which was effected as much by his exertions as by any one's, he accepted the professorship of sacred literature in it, and gave great satisfaction by his zeal and learning. He did not long hold this situation. He had been accustomed to govern, and he was easily chafed if his whole council was not adopted; and feeling the infirmity of years he resigned his office, and was succeeded by Moses Stuart, the most learned orientalist of his time, among the divines of his country. Dr. Pearson died in September, 1826, aged 74. He published an obituary notice of President Willard in 1804, and several occasional sermons, all of which bore the stamp of mental energy and profound learning. His powers of conversation were superiour to his compositions. His vocabulary was opulent, and he used it as one who had no fears of exhausting it. His style of conversation did much to bring up his countrymen from the narrow, scanty, and tasteless use of words,—which were used by those who knew better, from an affectation of modesty,—to something of freedom and elegance. Such a man is a publick blessing. A good instructer is among the most useful of publick men.

William Pinkney was born at Annapolis in 1764. His early education was defective; but such was his zeal and perseverance in his studies, that he was admitted to the bar when only twenty-two years of age. He soon became distinguished in his profession, and also took a part in political life. He was a member of the convention, in his native state, that ratified the constitution of the United States. In 1796 he was appointed a commissioner under Jay's treaty, and resided several years in London with his family. On returning to the United States he resumed the practice of the law, and became one of the most splendid advocates in the supreme court of the United States, and often measured his strength with Dexter, Webster, and Ogden. His eloquence was peculiarly his own, built on no model ancient or modern, and would admit of no successful imitation. In 1806 he was sent a plenipotentiary to England, and remained there for several years; but the salary of a foreign minister as paid by the United States, he found insufficient to defray his expenses, and solicited a recall. Mr. Madison appointed him attorney-general of the United States. He commanded a company in the battle of Bladensburgh, and fought with great bravery when others fled. In 1816 he was sent as minister to Russia and Naples. On his return he was appointed a senator of the United States. He held this seat until his death, which happened on the 25th of February, 1822. He was taken ill suddenly from over-exertion in a great cause in the supreme court of the United States, and from this indisposition he never recovered, lingering seven or eight days in a state of delirium. He left a wife and several children. One of his sons was a young gentleman of high literary attainments, who died not long after him. He was a man of fine personal appearance, and never forgot the advantages of dress. He prepared himself as much for a court room as for a ball room, and put on a clean pair of gloves to argue a cause, as regularly as he would if he had taken a partner for a cotillon. His life has been ably written by Henry Wheaton, a lawyer of distinction. The part of this work from Mr. Wheaton's pen is excellent, but the work is made too ponderous by copious extracts from Mr. Pinkney's legal opinions, which are not very attractive to the general reader.

Nicholas Pike was born in New Hampshire. His father was a clergyman. Nicholas graduated at Harvard College, 1766. In 1788, while at the head of the grammar school in Newburyport, in the county of Essex, in Massachusetts, he published an octavo volume, comprising a system of arithmetick, with a little of algebra and of conick sections. This work and its abridgments kept their places in the common schools in our country for a quarter of a century, when they were displaced by those of other mathematicians,—Walsh and others. He was appoint

ed a magistrate of the county, and for many years held his courts as a justice of the peace. He possessed a strong mind, but not highly cultivated, for one who had been a schoolmaster for so many years.—Master Pike, as he was familiarly called, was for half a century a terror to idle boys, for he was rigid in his discipline in school, and severe in his punishments for petty trespasses in his court. His court was the school for young lawyers and students in law in Newburyport to commence practice in; and they not only attended to the science of special pleading in his court, but argued points of law *in extenso*. On a question of the smallest amount he would hear as patiently and decide as gravely as though millions depended upon his decision. He died December 9th, 1819, aged 76. He was ready in the classicks as far as they were taught in his school, and seldom took a book to hear his pupils recite. He could boast of many excellent scholars who had received the rudiments of a classical education under his care; and this is no ordinary proof that he was well grounded in his learning.

Paugus, an Indian of the Pigwawkett tribe, was a bold, chivalrous sachem, known to all the border people of New Hampshire in the early part of the last century. Paugus was killed on the 8th of May, 1725. Captain Lovewell, a brave and enterprising commander, with 34 men proceeded to a pond in Fryburg, Maine, and there he met a body of Indians in ambush, commanded by Paugus. Lovewell and eight of his men were shot dead at the first fire. The remainder of this heroick band retreated to a favourable position, and defended themselves until late in the day, when the Indians fled, Paugus having been killed by Lieutenant Chamberlain of Lovewell's corps. The story has often been told and believed in the age of the adventure, that they discovered each other as they were washing out their guns. They had been acquainted with each other for many years, when the country was at peace. Paugus spoke English so as to be well understood; and he proposed to Chamberlain that they should commence loading at the same instant, and see who could fire first; that they knew full well would end the contest, for the aim of either was deadly. In good faith the duel commenced: Chamberlain had a large king's-arm, that from the size of the vent primed itself. He put in the cartridge, and striking the but of the gun on the ground, without ramming down his charge or stopping to prime, he fired, and shot the chief as he was lifting his piece to his shoulder. The Indians instantly fled, and on the rising of the moon the yankee party retired from the battle-field. All was still as death; —no Indian scream was heard during the night;—Paugus, a beloved chief, had fallen, and they retired to lament his fall.

This battle excited a great deal of sympathy at the time, and the event has been oftener commemorated than others, from the fact that every minute circumstance of the battle has been more faithfully described than other occurrences in the Indian wars. Symmes, a learned divine, of Bradford, which was on the highway taken by the relick of Lovewell's men, as they journeyed homeward, collected from them the history of the fight, as he entertained them at his hospitable mansion, and gave it in a spirited sermon to his parishioners from the pulpit, which was afterwards published with notes. Penhallow, of Portsmouth, who was then writing a history of Indian Wars, took the narrative from some one of the survivors, and his statement varies but little from the others; but, if all these had been lost, the ballad I have selected would have given to the present generation a very correct idea of the fight. At that time, there were other circumstances, also, which gave this battle much celebrity. The character of the men who figured in it was one. Lovewell himself was a man of note. The very act of venturing, with only a handful of men, so far in the wilderness, was considered heroick; and such was the state of feeling, that nothing could be considered as presumptuous at that time. All his men were of the most virtuous and religious class of society, and were well connected. Many of them were heads of families, whose loss was severely felt in that thinly set-

tled population. Among the number who fell, was Mr. Jonathan Frye, a student in divinity, who was Lovewell's chaplain, and who had joined this little band, from some affair of the heart. He made himself conspicuous in the fight, and, as described, acted with reckless valour, which is often found to belong to such a state of mind. The fair one to whom he was thought by his friends to be imprudently attached, was not content with the praise others were ready to bestow upon the lost object of her affections; and although only fourteen years of age, struck her harp in mournful lays, upon her Philander's fate, and produced an elegy which has survived to this day, being lately found in an ancient manuscript of a gentleman of the native place of the lovers, and lately transmitted to me. If it does not burn with a Sapphic blaze, it gives more of the light of history than all the odes of the Lesbian dame on her lost Phaon. Miss Susannah Rogers calls on the muse to assist her in describing the youthful warriour, who afar off was resting without his shroud on the field of glory. She says, that his person was comely, his age just twenty-one, his genius of the highest excellence, and that he was the only son of his parents, beloved by all who knew him. His valour, his piety, his prayers amidst the fight, his wounds all bleeding, pass in review before her streaming eyes, and she sees the "howling wilderness" where he fell. She notes the fortitude and resignation with which he died, or rather his exhibition of it, when they left him to die, for he was not dead when his companions were under the necessity of leaving him to perish. The parental grief is not forgotten, and her own loss is touched upon with truth and delicacy. Thus every age furnishes matter for grief, and subjects for the poet of a melancholy cast. I will give the whole of the ballad on the fight, for it is a fair specimen of that style of writing; but the elegy of the bereaved fair is too long to be quoted here.

Of worthy Captain Lovewell, I purpose now to sing,
How valiantly he served his country and his king;
He and his valiant soldiers did range the woods full wide,
And hardships they endured to quell the Indian's pride.

'Twas nigh unto Pigwacket, on the eighth day of May,
They spied a rebel Indian, soon after break of day;
He on a bank was walking, upon a neck of land,
Which leads into a pond, as we're made to understand.

Our men resolved to have him, and travelled two miles round,
Until they met the Indian, who boldly stood his ground;
Then spoke up Captain Lovewell, "Take you good heed," says he,
"This rogue is to decoy us, I very plainly see.

"The Indians lie in ambush, in some place nigh at hand,
In order to surround us, upon this neck of land;
Therefore we'll march in order, and each man leave his pack,
That we may briskly fight them, when they make their attack."

They came unto the Indian, who did them thus defy,
As soon as they came nigh him, two guns he did let fly,
Which wounded Captain Lovewell, and likewise one man more,
But when this rogue was running, they laid him in his gore.

When they had scalped the Indian, they went back to the spot
Where they had laid their packs down, but there they found them not;
For the Indians having spied them, when they them down did lay,
Did seize them for their plunder, and carry them away.

These rebels lay in ambush, this very place hard by,
So that an English soldier did one of them espy,
And cried out, "here's an Indian," with that they started out,
As fiercely as old lions, and hideously did shout.

With that our valiant English, all gave a loud huzza,
To show the rebel Indians they feared them not a straw;
So now the fight began, and as fiercely as could be,
The Indians ran up to them, but soon were forced to flee.

Then spoke up Captain Lovewell, when first the fight began,
"Fight on, my valiant heroes! you see they fall like rain."
For as we are informed, the Indians were so thick,
A man could scarcely fire a gun, and not some of them hit.

Then did the rebels try their best, our soldiers to surround,
But they could not accomplish it, because there was a pond
To which our men retreated, and covered all the rear,
The rogues were forced to flee them, although they skulked for fear.

Two logs there were behind them, that close together lay,
Without being discovered, they could not get away;
Therefore our valiant English, they travell'd in a row,
And at a handsome distance, as they were wont to go.

Twas ten o'clock in the morning, when first the fight began,
And fiercely did continue until the setting sun;
Excepting that the Indians, some hours before 'twas night,
Drew off into the bushes, and ceased awhile to fight.

But soon again returned, in fierce and furious mood,
Shouting as in the morning, but yet not half so loud;
For as we are informed, so thick and fast they fell,
Scarce twenty of their number at night could get home well.

And our valiant English, till midnight there did stay,
To see whether the rebels would have another fray;
But they no more returning, they made off towards their home,
And brought away their wounded, as far as they could come.

Jonathan Frye, as he was about leaving his father's door, took a small elm seedling and set it in the ground in the road, near the house, and called on his mother and sisters to take care of it until he returned. The tree is now one of the largest class of elm trees in New England, measuring twenty feet in girth several feet from the ground. It was saved once from the destroyer's axe by the writer of this article, and it is now cherished by the owner of the Frye estate, as a tree belonging to history. In May 1825, when a century had closed upon the scene, an oration was delivered at Fryeburg by Charles Davies, Esquire, upon the event; the production abounds in classick beauties, and should be preserved in the archives of our country.

More than one poet of our country has paid due honours to the race who have now passed away. The introduction to the story of Yamoyden is full of poetick life and beauty. In Sands and Eastburn, these children of the forest have found minstrels worthy of an heroick age. The requium they breathed over the Wampanoags, would have soothed the shade of Ilium's dead, in the primitive ages of heroism, when gods and men were mingled in mortal fray.

"Hark to that shriek upon the summer blast!
Wildly it swells the fitful gusts between,
And as its dying echoes faint have passed,
Sad moans the night-wind, o'er the troubled scene.
Sunk is the day, obscured the valleys green;
Nor moon nor stars are glimmering in the sky,
Thick veiled behind their tempest-gathered screen;
Lost in deep shades the hills and waters lie;
Whence rose that boding-scream, that agonizing cry?

"Spirit of Eld! who, on thy moss-clad throne,
Record'st the actions of the mighty dead;
By whom the secrets of the past are known,
And all oblivion's spell-bound volume read;—
Sleep wo and crime beneath thine awful tread?
Or is it but idle fancy's mockery vain,
Who loves the mists of wonder round to spread?
No! 'tis a sound of sadder, sterner strain,
Spirit of by-gone years, that haunts thine ancient reign.

"'Tis the death wail of a departed race,—
Long vanished hence, unhonoured in their grave;
Their story lost to memory, like the trace
That to the greensward erst their sandals gave;—
Wail for the feather-cinctured warriors brave,
Who, battling for their fathers' empire well,
Perished, when valour could no longer save
From soulless bigotry, and avarice fell,
That tracked them to the death, with mad, infuriate yell.

"Spirit of Eld! inspire one generous verse,
The unpractised minstrel's tributary song;
Mid these thine ancient groves he would rehearse
The closing story of their Sachem's wrong.
On that rude column, shrined thy wrecks among,
Tradition! names there are, which time hath worn,
Nor yet effaced; proud names, to which belong

A dismal tale of foul oppressions borne,
Which man can ne'er recall, but which the muse may mourn."

Richard Peters was born at Philadelphia, in June, 1744. He was educated for the bar, and commenced a successful practice in his native city. In 1776 he was appointed secretary of the board of war. In 1781 he was a member of congress, but as soon as the constitution of the United States went into operation, Washington appointed Peters a district judge, in which office he continued until his death, which happened on the 21st of August, 1828, when he had reached the eighty-fourth year of his age. He was a profound admiralty lawyer, and his opinions were seldom over-ruled. He laughed at all gravity of muscle, and punned while uttering a sage opinion. His opinions in Peters' Reports do him great credit. He threw no small share of common-sense and equity into his opinions, for which he had no precedent, and there were many such cases; for since his time admiralty law has grown up chiefly, both here and in England. His conversation was easy, flowing, and full of rich anecdotes. He was well informed in the history of his country; and did more to instruct and amuse the social circle, than any other man in the polished society in which he moved; without losing the dignity of intellectual superiority, he would set the table in a roar, wherever he chanced to dine, among friends or strangers. He was a theoretical and practical farmer. He was among the first who experimented, in this country, upon the use of plaster of paris. In 1797, when it was hardly known, he wrote some excellent articles upon the use of it in the culture of clover. This induced the southern planters to use it, and at length the New England farmers came into the practice. They consumed great quantities, and to a good effect. Judge Peters was a good botanist, and eminently successful as an arboriculturist. He took great pains in dressing his nursery, and planting his field trees. He understood all the food necessary for their growth, and carefully watched and readily understood their diseases. His communications to the Philadelphia agricultural society were numerous, and all marked with practical good sense. When he first began to write upon agriculture and horticulture, but little attention had been paid to the scientifick part of farming. The farmer went on as his fathers had before him, and hardly thought of a single improvement. Since his time, a number of first rate philosophers have devoted their best hours to agricultural chymistry and practical farming; agricultural societies have been formed in many parts of the country; and the cultivation of the soil is now held as an honourable employment. Such a man is a blessing to his country, and should not be forgotten.

Powhatan, the most powerful of the Indian kings, was sachem of the tribes in Virginia and the neighbouring territory. He was a bold savage, politick and patriotick. He saw at once, that the whites would soon control his country, if they were not destroyed, and he set about to effect this; but by the prudence and prowess of Captain John Smith, he was baffled in all his schemes for this purpose.

Powhatan was called crafty, insidious, and cruel, but he was no more so than other patriotick aboriginals. These sons of the forest loved their country, and they had sagacity enough to see that it would soon be taken from them, if they did not make a struggle to rid themselves of the new-comers. After the marriage of his daughter Pocahontas to Mr Rolfe, Powhatan lived in peace with the English until his death. If Indians are seen through the medium of taste, they are loathsome, but if we view them as warriours, patriots, and philosophers, they are as brave as those of the phalanx, and as patriotick as Epaminondas; and the stoick of the woods is as indifferent to fate as the stoick of the schools.

Captain Smith's account of the Virginia Indians is curious, and unquestionably faithful.

"The land is not populous, for the men be few; their far greater number is of women and children. Within 60 mylee of Iames Towne, there are about some 5000 people, but of able men fit for their warres scarce 1500. To nourish so many together they haue yet no meanes, because they make so small a benefit of their land be it never so fertile. Six or seuen

hundred haue beene the most hath beene seene together, when they gathered themselves to *haue surprised* me at Pamavnkee, having but fifteene to withstand the worst of their fury. As small as the proportion of ground that hath yet beene discovered, is in comparison of that yet vnknowne: the people differ very much in stature, especially in language, as before is expressed. Some being very great as the Sasquesahanocks; others very little, as the Wighcocomocoes: but generally tall and straight, of a comely proportion, and of a colour browne when they are of any age, but they are borne white. Their hayre is generally blacke, but few haue any beards. The men weare halfe their beards shaven, the other halfe long; for Barbers they vse their women, who with two shels will grate away the hayre, of any fashion they please. The women are cut in many fashions, agreeable to their yeares, but ever some part remaineth long. They are very strong, of an able body and full of agilitie, able to endure to lie in the woods vnder a tree by the fire, in the worst of winter, or in the weedes and grasse, in Ambuscado in the Sommer. They are inconstant in every thing, but what feare constraineth them to keepe. Craftie, timerous, quicke of apprehension, and very ingenious. Some are of disposition fearefull, some bold, most cautelous, all Savage. Generally covetous of Copper, Beads, and such like trash. They are soone moued to anger, and so malicious, that they seldome forget an iniury: they seldome steale one from another, lest their conjurers should reveale it, and so they be pursued and punished. That they are thus feared is certaine, but that any can reueale their offences by coniuration I am doubtfull. Their women are carefull not to be suspected of dishonestie without the leaue of their husbands. Each household knoweth their owne lands, and gardens, and most liue of their owne labours. For their apparell, they are sometimes covered with the skinnes of wilde beasts which in Winter are dressed with the hayre, but in Sommer without. The better sort vse large mantels of Deare skins, not much differing in fashion from the Irish mantels. Some imbrodered with white beads, some with Copper, other painted after their manner. But the common sort haue scarce to cover their nakednesse, but with grasse, the leaues of trees, or such like. We haue seene some vse mantels made of Turky feathers, so prettily wrought and woven with threads that nothing could be discerned but the feathers. That was exceeding warme and very handsome. But the women are alwayes covered about their middles with a skin, and very shamefast to be seene bare. They adorne themselues most with copper beads and paintings. Their women, some haue their legs, hands, breasts and face cunningly imbrodered with divers workes, as beasts, serpents, artificially wrought into their flesh with blacke spots. In each eare commonly they have 3 great holes, whereat they hang chaines, bracelets, or copper. Some of their men weare in those holes, a small greene and yellow coloured snake, neare halfe a yard in length, which crawling and lapping her selfe about his necke oftentimes familiarly would kisse his lips. Others weare a dead Rat tyed by the taile. Some on their heads weare the wing of a bird, or some large feather with a Rattell. Those Rattells are somewhat like the chape of a Rapier, but lesse, which they take from the taile of a snake."

THEOPHILUS PARSONS was born at Byfield, a parish in the town of Newbury, in the county of Essex, on the 24th of February, 1750. His father was the Rev. Moses Parsons, the clergyman of the parish, who had several sons distinguished for their talents. To three of them he gave an education at Harvard University, and two others were bred as merchants. This family had great advantages in obtaining the elementary principles of knowledge, as there was an academy in the very neighborhood, the first which was founded in New England. Most of the eminent scholars of the last century in this commonwealth received the rudiments of learning at this institution. At the time Parsons was a student at Dummer academy, it was under the care of the celebrated Master Moody, who lived to a good old age, and was well known to those of our day, as a man of learning and piety; but remembered, perhaps, more for his singularities, than any other American in-

structer. He was constantly compared to Busby, Sheridan, and master More, for extensive information and eccentricities. His pupils were always considered by him as his children, for he was a bachelor, and he claimed an interest in their fame and success, or sympathized in their misfortunes, whatever time had elapsed since they had been under his care, or whatever distance separated them; and in every interview with them, he still remembered that he was once their tutor, and kept up his former air of superiority and distinction. Parsons highly respected his old instructer, and frequently, even to his last years, amused himself, and his friends with anecdotes of his goodness and eccentricity. At this school Parsons was distinguished for his capacity, and acquirements, and always obtained the highest eulogy his old friend had to bestow, "he is a brave boy," which epithet with him retained its original signification. From this school Parsons went to college, in the year 1765, and was ranked among the first of his class; and at the time when he graduated, was thought by many to be the first in talents and knowledge, of all who had graduated for many years. The late Judge Tudor was his chum, and class-mate, and used to describe with great minuteness and accuracy his course of studies, his tastes, habits, and disposition. No one knew Parsons better than this excellent man, for they were intimate friends for forty-eight years. Parsons commenced the study of the law at Portland, then called Falmouth, with the late Judge Bradbury. During a part of the term of three years he was engaged in keeping school, and when he offered himself for admission as an attorney in the courts, an objection was made, stating this fact; for the rule requiring three whole years, uninterrupted by any other occupation, to be spent in a counsellor's office, had been established by the bar in the county of Suffolk in the year 1760, and agreed to afterwards by the bar throughout the commonwealth. Parsons urged his admission, alleging there were exceptions to all rules, and requested that those learned in the law might examine him; this was so far done as to satisfy the bar that he was a young man of singular acquirements, and worthy to be admitted to practice, and their consent was unanimously given; so that in truth he was distinguished as a lawyer at the very commencement of his career. He continued in practice in Falmouth until the courts were stopped by the revolutionary proceedings, or the place was destroyed by the enemy in 1776. During his stay in that place, he was zealously engaged in arresting the progress of pettifoggers, who carried on their trade with great success at that time, in the province of Maine. He was fully sensible that the dignity and usefulness of the profession depended in a great measure upon the observance of strict rules and regulations in practice, and he fearlessly made a struggle against popular opinion, to put down this contemptible class of men, who profess to make law cheap, while they only instigate suits, and lead clients into error, and frequently to ruin. He wrote upon this subject to his friend Judge Tudor, who was then, though very young, a member of the legislature, in order to procure the interference of that body in suppressing their practices; but it has ever been found that no law can reach this class of men; and that nothing but the progress of good sense in the community can destroy them.

Parsons returned from Falmouth to his father's house in Byfield, where he found that eminent lawyer, Judge Trowbridge, who had left Cambridge, his usual place of residence, having resigned his office of judge of the Superior Court, soon after the battle of Lexington, and retired from the storm, to repose for a while at Byfield. Trowbridge had been distinguished, not only as a profound lawyer, and an able advocate, but as a zealous law officer for government, having been attorney general for some time before he ascended the bench; but when he saw the people rise in hostility, his courage forsook him, and he fled from the confusion around him, and tried to shut his eyes to what was going on, or to keep the din of arms from disturbing his lucubrations. He was pursuing his legal investigations with the ardor of youth, and must have felt no small delight in having a pupil, or an associate in pursuing this course, possessing the

knowledge and talents of Parsons. They went on together for some time in a mansion of peace and quietness, where no warlike foot ever came to disturb their contemplations. The mind of the judge had reached its highest powers, and his knowledge was extensive and mature. Severe application abstracted his attention from the political world, and he felt the highest pleasure in pouring out his stores in profusion upon one so ready to receive, and so capable of appreciating them.

When the courts were revived in 1777, Parsons opened an office in Newburyport, where he soon became conspicuous as a lawyer. This town was, at that time, a place of considerable trade, enterprise, and fashion; and formed, as he then supposed, a sufficient field for his abilities; but in this he was mistaken; such a man should have commenced in the capital.

In 1777, the legislature not pleased with their situation without a constitution, formed one, and sent it out to the people for their consideration, having been invested with powers for that purpose by their constituents, when they were elected to represent them in the legislature; but the best informed men saw in it gross defects, and were determined that it should not be adopted. Several towns in the county of Essex sent delegates, who met at Ipswich to consult on this subject, and after several adjournments, the famous report was made, which was called the Essex Result. In this report they discussed the question with great ability; pointed out the errors in the constitution proposed for the people, and fully offered their opinions to the public on the subject. Parsons was one of this committee, and drafted the report; in some things he was controlled by the other members, and would not avow all the principles advocated in this result as his own, but he was in fact the author of it. This production contains all the principles incorporated in the best constitutions of government to be found in our united Republic. In this, the true elements of a republic were put into a reasonable shape, and practical form, without any of those revolting eccentricities and fooleries, which are so often mixed up with the first ebullitions of liberty. The style of this production never satisfied its author; he attempted to exhibit these important principles in a popular manner, that they might seize the feelings of the people, as well as to convince the understandings of the enlightened; but he ever after felt assured that his talent did not lie that way. He was made to forge the massy links of the chain of reasoning, to bind the understanding; but never could file and burnish them to please the imagination; yet notwithstanding Parsons did not satisfy himself in the style of this work, no one ever complained of it, or had cause to complain. True criticism is seldom busy when the matter is sound, and the subject interesting.

The French revolution followed our independence so soon, and the French in their enthusiasm caricatured every feature of liberty so hideously, and put at defiance every thing like taste, truth, or decency, that every man of common sense began to blush for himself, in thinking that he had ever indulged in romantic visions of freedom. Under the depressing restraint of despotic power, or in the enthusiasm of extravagant or licentious liberty, we seldom find a pure, chaste, elevated, and manly style of writing. The regular tone is lost, and the pulse beats too quick, or too slow, under the influence of either.

In 1779-80, a convention of delegates from the several towns in the commonwealth met, and after much discussion, prepared a draft of the present constitution, to be offered to the people for their consideration and adoption. In this body he was a delegate from Newburyport, and had no small share in their labors. This constitution was not exactly what was wanted to suit the most enlightened men; but on the whole it was the best which could be obtained, and its general features were not very displeasing even to those who wished to change some portion of them.

After the close of the revolutionary struggle, the Congress of the confederate states dragged on a feeble existence; not wanting in dignity and talent, but without powers suited to the great concerns of the nation. The immediate pressure was gone which had

given authority to their laws, if they deserved that name. The states were jealous, and reluctantly yielded to their control, even on those subjects which could not be managed by them individually. No national enterprize or prosperity could be expected while things were in this situation, and the people of the north and the south felt the necessity of a different system of government. A general convention was called, which formed a constitution, and submitted it to the several states for their adoption. The convention for Massachusetts assembled at Boston in 1789. A great mass of talent was collected in this body. The wise part of the community knew that the people had just paused from the labor of opposing parliamentary oppression, and were jealous of the forms, even of wholesome restraint. Reason, eloquence, and management were put in requisition to enlighten the dull, secure the timid and wavering, and to convince and bring over the obstinate. Great exertions were made to elect the first characters in Massachusetts. Dana, Strong, Cabot, King, Ames, and a host of distinguished statesmen were sent to this convention, for the question was considered as affecting the vital interests of the nation. The eyes of the world were on the republic. The lovers of aristocracy and monarchy were hoping, and no doubt were fully persuaded that the people had not sufficient discretion or virtue to preserve the rights they had won, and that all would be lost in factions and disorder. Parsons came to this body with solemn apprehensions of failure, but with a fixed resolution to spare nothing to obtain the adoption of the constitution. Though he had labored but little for fame, and never courted popularity, he felt it necessary to use every fair mean in this cause; the whole stores of his learning, all the powers of his mighty mind were brought to bear on the question; and his opponents felt the force of his wit, and the power of his argument; the demagogue shrunk from the shafts of his satire, and the obdurate retreated from the tremendous weight of his blows. He did more, he discovered the doubts of the feeble, and gently removed them; he sunk the proud pre-eminence of genius, in his anxiety for success, and firmly attached to his cause, by the amenity of his manners, those whom his reasons had not entirely convinced. An anecdote will illustrate this. A clergyman in the convention, a man of strong puritanical feelings and habits, was opposed to the proposed constitution, because he saw danger in giving men too much power; the common objection made to it. Parsons, by frequent conversations had made a deep impression on his mind, and he was yielding to the arguments against his fears on that point, when he raised another. which he thought no one could remove. He said that there was no presiding angel at the formation of this instrument; it could not be good, for the name of God was not in it. Parsons instantly replied that such an argument would go too far—so far as to destroy the authority of one of the most interesting of those books in the Bible which were held canonical; for one of the books of the Old Testament had not the name of God in it. The astonished clergyman said, if such a book could be shown, his scruples would certainly be shaken; but asserted that no such book could be found. He was requested to read the book of Esther; and in truth the name of God could not be found in it, directly, or by any appellation of Godhead. This is told to show the influence he had over those on whom he fastened. It is a fact too well known to repeat, that only by great exertions of the enlightened part of the convention a majority was obtained, and peace, happiness, and national dignity secured.

In this convention was Rufus King, a man born for distinction in any course he might have pursued; he was zealous in the cause of rational freedom; and his splendid speeches are remembered as models of elocution. This was the only man who ever stood for a moment as the rival of Parsons in his own neighborhood. King had been the pupil of Parsons: had graduated with the reputation of a man of sound sense, and elevated genius; and had sustained and increased that reputation while pursuing his law studies in Newburyport. On his admission to the bar he began a high display of the most popular talents. His manners, his person,

his eloquence, and above all, his desire to please, aided by his true merits, made him the idol of the people. Soon after his admission to the bar, he was sent a representative of the town to the legislature of the commonwealth, and from that body was chosen a delegate to Congress. From King's becoming devoted to politics, Parsons seemed to be destined to have no one in his way, to occupy his thoughts for a moment. Sensitive, bold, and decisive, King was formed to feel with acuteness, and to oppose with firmness; but fortunately the collisions of Parsons and King, if they ever had any, were but of short duration. At that time, and in after years, these gentlemen respectively bore testimony to each other's worth, and defended each other's reputation. Greatness is seldom allied to meanness, and the brightest and wisest of mankind rarely harbor feelings of permanent jealousy and hatred. The high-minded may meet in the storm, and be brought into strife by the elements, but the bow of peace is soon seen in the heavens, and the calm sunshine follows.

Parsons continued to reside in Newburyport for many years; but his business in the courts kept him from home no small portion of his time; for he was not only called upon professionally in various parts of this commonwealth, but was also engaged in many important causes in the neighboring states. A large portion of his relations and connexions lived in Boston, and they, with his other friends, prevailed upon him to leave Newburyport, and come to the metropolis. This took place in the year 1800. Though persuaded that it was his duty to change his residence, yet through life he cherished the remembrance of the place where his fame had taken root, and grown, and expanded; for there his first patrons lived; there he selected the partner of his days, and there his children were born. In Boston, he found more men of congenial minds, and sufficient business of magnitude and profit, and it became unnecessary for him to leave the town, to attend the courts at a distance. This removal should have been earlier. A great man is never properly at home in a small place; the larger the city, the more certainty there is of his finding a just appreciation of his merits, when they are grown to maturity. Had Cæsar ever lived in a village, the ambitious remark to his friend would never have been made; had he known all the divisions, heart-burning, and intrigues of a little town, he would not have preferred *being first there, to being second at Rome;* but in their several callings they were both born to be second no where. Old friendships are necessary for the stock part of the enjoyments of life; but when the circle is small, we soon become acquainted with the powers, opinions, and dispositions of our associates, and want something new, to relieve us from lassitude, or to enliven a dull hour. Where learning, business, and amusement are found, there is the place to improve and enjoy. Parsons practised as a lawyer in Boston for six years, and was engaged in most causes of intricacy, or magnitude, at the terms of the supreme court at Suffolk; but he would have found sufficient employment at his chambers, without ever attending a court, for merchants, lawyers, and statesmen crowded his rooms, for advice and direction.

In 1806, Chief Justice Dana, oppressed by the infirmities of age, resigned his office, and every eye was turned on Parsons as his successor. The judges were anxious to profit by his profound knowledge of the law, and the whole community were desirous to see him at the head of the judiciary; but it was a question among those who most earnestly wished to see him Chief Justice, if he ought to be urged to quit his profession, when it was so lucrative, and make such an immense sacrifice to the public. His income might have been, without extravagant charges, from six to ten thousand dollars a year, and the chief justice received then but twenty-five hundred dollars a year, a very scanty compensation for such men as filled the bench at that time. Governor Strong nominated him, though rather doubtful of his acceptance of the office; but he did accept it, and addressed a letter to his excellency, full of unanswerable arguments, for increasing the salary of the judges. Every sentence of this letter was marked with modesty, and indepen-

dence. The Governor, in his speech to the legislature, made on the 21st of June, 1806, recommended the arguments in this letter to the attention of that body, as giving his own views on the subject of a *permanent* and *respectable* compensation to the judges of the supreme judicial court; and much to the lasting honor of the legislature of that year, the salaries were raised to the present establishment. In this appointment the public expectations were fully realized, for he was the pride and boast of every enlightened, unprejudiced man in the commonwealth, until his death, which happened in October, 1813. His health had been declining for some time, yet he continued to be active and laborious in his office, until within a few months of his death. This event was felt as a general calamity; the bar throughout New England deplored the loss of this great master in the profession, and the learned bench of judges, mourned the extinguishment of the brightest luminary in the temple of justice. His associates, Judges Sewall and Parker pronounced eulogies upon their friend and brother, and the people sincerely sympathized with them in the irreparable loss the community had sustained. What Sewall said, I believe, is not in print except in the newspapers; but Parker's eulogy is to be found in a volume of the Reports of the court, as well as in a pamphlet. The production is a chaste, appropriate, and discriminating sketch of the character of a man, whose eulogy could hardly be made extravagant.

That independence of character, which arises from talents, and a consciousness of being able by the exercise of them to be, at all times, and in every place, raised above pecuniary evils, is perhaps not rare; but then this firmness, and elevation of soul is frequently affected, and its fine displays lost by the situation of connexions and friends; and sometimes by the goodness of disposition attendant on this very spirit of independence. Most men, however brave, feel an unwillingness to contend with powerful coteries, whose friendly opinions, if not absolutely necessary to success, are certainly convenient to advancement and distinction. Most men, however well armed, would prefer a passport for travelling on an old and guarded way, to cutting a path for themselves. It is natural for us to lean on one another, to save the pain or the dread of standing alone; but when Parsons commenced life, it was a singularly fortunate moment for such a man to carve out his own course, and freely, and independently to pursue it; and never did a man do it more successfully. The revolution had changed the manners, habits, feelings, and the opinions of the people; and such a man, active, intelligent, and confident, gave impressions to society from his own modes of thinking: directed the course to be pursued, and was seldom biassed by the opinions of others, or rarely followed when they led. The influence of intellect is always great in every community, but never more so than when the people are in difficulty, when things are in an unsettled state, and the social compact is but on trial. He never made the least struggle for popularity, for he had no little ambitious calculations. The pomp and pride of office had no charms for him; indeed it was higher play to direct those who held them, than to go through the drudgery of them himself. Always sure of the first business in his profession to the full extent of his wishes, and having no avaricious feeling to gratify, or speculations to pursue, there could be no necessity for him to court the wealthy and the proud, and he had no wish to trample on the poor and humble; hence he was in truth one of the most independent men that ever lived. To analyze a mind like his, would require more labor than the writer of this sketch can bestow, but there were some traits in his character too conspicuous to be noticed only by general remarks. His memory was wonderfully tenacious. All the elementary or light readings of his childhood; the studies of youth and manhood, and the researches of his graver years were, to the last of his life, fresh in his recollection. Dates, which seem difficult to keep in mind, the most uncouth names of persons, or places, and the most trivial epitaph, and even common remarks in conversation, were remembered by him with such accuracy, that one would have thought that he found it impos-

sible to forget any thing he had seen, heard, or read. His memory was not of that desultory sort, which is sometimes found where the judgment is feeble—a simple power to retain without the faculty of classification, or arrangement; but in the store-house of his memory, every thing, however small, was laid up in proper order. He seemed to have the same control over his thoughts, that a disciplinarian has over his men; they came, retired, concentrated, or scattered, were condensed in column, or extended in line at his bidding. To the inequality of the power of fixing the mind on a subject offered for consideration, and in embodying and arranging the thoughts upon it may be attributed, more than to any other cause, the intellectual differences among men. On all questions, even the most intricate, he had such a rapid and intense concentration of thought, that there was an air of suddenness in his most sound and well matured opinions; but the appositeness of his remarks, and the justness of his decisions, evinced the spirit of deep reflection, or of intuition. His imagination was sometimes warm, and always prolific; and at times in his youth, like Mansfield, Blackstone, and other great lawyers, he felt and avowed the influences of the muses; but his taste led him rather to laugh at folly, and satirize superstition, than to indulge in the plaintive and sentimental. That he was not a poet of high order, was not for want of genius, or taste; but poetry was incompatible with his professional pursuits. The rose will not flourish where the oak is planted and growing; and on the soil where flowers spring spontaneously, the honey-suckle and the woodbine must be trodden down and grubbled up, if the husbandman makes judicious calculations for a harvest. His readiness of conception, his power of retention, and his ardor and perseverance in the acquisition of knowledge made him one of the most learned men of his time. To those around him his acquirements seemed prodigious; other men they could measure and survey their intellectual dimensions, but his elevation was to them inapproachable and immeasurable; but the proportions of any man can easily be ascertained when he is dead, for he is found at last to be mortal, and cannot have been so much beyond others, as when living, he may have seemed to be.

In the science of the law he was deeply versed. He had read with attention and retained with accuracy all the legal learning to be found in English and French authors; and he had gone further and caught the manners, the customs of his own country and blended them with the common law authorities. He knew more of what might be denominated New England law, than any other man. In early life he analyzed the principles of special pleading, and made himself master of all its rules; and he often remarked that a dull man could learn its technicalities, but it was a proof of a logical mind to be well acquainted with the true spirit of this concise, forcible, and accurate mode of reasoning. His contemporaries speak of him as the profoundest mathematician of his age. This remark can only be true, when confined to men not professedly engaged in the pursuit of this science. He was remarkably fond of that study, and pursued it for the delight and satisfaction it afforded. That process which carries the mind beyond the common things of life, gives a serenity and elevation to the soul, is inconceivable to those who are engaged only with its ordinary business. Whoever discovers a new track, or extends a beaten one, is happy, whether it be in the moral or natural world. There was as much to delight the imagination in the pursuits of Newton and Laplace, as in the studies of Dryden and Milton. In fact, more unalloyed pleasure can be found in contemplations on nature and her laws, than on morals and men. In nature, every thing is perfect, though frequently mysterious, but in the moral world there are many evils to deplore. One of the first mathematicians of this country, who had long been intimate with Parsons, has said, that his friends were deceived in the extent of his pursuits, but that his genius for this science was of the highest order. He was always fond of classical studies, and had a most extensive acquaintance with literature in general, He read history with great attention, as important in connexion

with his profession. At the age of forty-five, he renewed his attention to the languages, particularly the Greek, as it is said, for the purpose of interesting his eldest son in this study while preparing to enter college; and he continued his partiality for this most beautiful and philosophical of all languages through life. He commenced a correspondence on Greek literature with a learned professor in Europe, and quite charmed him by his profound remarks on that language. Indeed, Greek was almost vernacular to him, for at seven or eight years of age he could read the Greek Testament with ease. He studied it, however before he did the Latin, for his father, who was an excellent Greek scholar, thought it should be acquired first. I have often heard several learned teachers of youth say, that Parsons knew more of the philosophy of grammar than they believed any one could have acquired, unless he had made it a favorite study for years.

When Tooke's Diversions of Purley first appeared, he read the book with the same delight as he would have perused a spirited novel. To one so well grounded in the nature and principles of general grammar, no particular language could be of difficult attainment. He made himself acquainted with the Hebrew to search the Scriptures, and French was indispensable, as the means of reaching the immense stores of modern learning in every branch of knowledge.

When he came to the bar, it was a period of glorious uncertainty in matters of law. Principles of practice were but loosely settled by the court, and in fact they had but few books of Reports to assist them, or rules to guide them, but such as existed in their scanty minutes, and their memories; and in such a state of things uniformity and accuracy could not always be expected. In every case of importance, all was thought to depend on the learning, sagacity, cunning, and eloquence of counsel. It would have been in vain for any one man to have attempted a reformation, for most practitioners at that period, would have united against a change, from the mistaken idea, that business depended on giving an air of mystery to the proceedings of the profession; forgetting that no science, however difficult to attain, has any mystery in its farthest researches, or in its remotest principles. It can hardly be believed at this day, but it is a fact, that many old lawyers who were in full practice when Blackstone's Commentaries first appeared in this country, were frequently heard to regret and complain that he should have so simplified and arranged his subject, and so clearly explained the principles of law, that the same amount of knowledge which had cost them years to collect, might be obtained in a short time. They were as much alarmed for fear of making law cheap, as the alchymists were of making the secrets of nature common, when the philosophers of England and France scattered the mysteries of the alembic, by giving to the world the result of their experiments. He possessed rare qualities for his profession, had he lived at any period of its progress, but the time at which he commenced business afforded the widest and fairest field for the exercise of his powers. Great latitude was then allowed in forensic discussions, and he was armed at all points for the contest. To learning, deep and extensive, he added a quickness of comprehension, that penetrated every thing at a glance; a boldness and hardihood that nothing could appal, and a flow of wit that turned whatever he pleased to ridicule. He sometimes exploded his opponent's arguments by raising the laugh, and sometimes attacked them by sarcasm which cut to the heart. Still there was nothing malevolent in his disposition; but it is hard to have a giant's strength, and not at moments to use it as tyrannically as a giant. Often he showed the rack, and extended his adversary on the wheel, when he did not intend to stretch a sinew, or break a joint.

He was a forcible and powerful speaker, not that his tones were melliflous, or his gestures graceful, but his was the eloquence of reason. His arguments were terse and condensed, full and illustrative, pointed, cutting, and sarcastic; or conciliatory, amusing, and gentle, all as he chose, or as suited his subject or his audience. He was, in early life, frequently employed as counsel in capi-

tal cases, and was always selected by the prisoner when he could be obtained.

In 1784, he was counsel for several men charged with piracy, and exhibited such learning, skill, and ingenuity, as perplexed the court on a question of law, and saved the men from the gallows. This case was much talked of at the time, but the precise points in it, I have not been able to ascertain. To give an account of all the excellent or ingenious arguments he delivered, would be nothing less than a history of numerous courts, for nearly forty years previous to his death. I remember several speeches of his, but one more particularly than others, as the cause made considerable noise in the county of Essex.

At the November term, 1805, held at Salem, a gentleman of some distinction in the political world was tried, with several of his dependents, for a riot. The cause had been given to a jury once before, which did not agree on a verdict. It was feared, and not without cause, that justice might a second time be strangled in the rancor of party feelings. The attorney general was unwell, the solicitor general absent, and it was thought proper by the court that the trial should proceed, and indeed the defendants were eager for it. After some consultation, the court appointed Parsons and Jackson to act for the government. The cause was opened by Jackson, now one of the supreme judges, but he did not make much effort in it, as he thought it was a plain case of riot, and that the defendants were proved to be in it, and without excuse. Dexter was counsel for the defendants; his fees were large; the cause one which excited great interest; and above all, Parsons was against him, out of the common course. Dexter exerted himself in the examination of the witnesses, and in the argument; and in fact it was a most powerful defence; his utmost subtlety, and his highest powers of eloquence and reasoning were burnished up for the occasion. It was a fine specimen of boldness, acuteness, and management. Parsons closed on the part of government, in one of his happiest displays of impressive speaking, and legal disquisition; his zeal, and his pride were in the cause, and his speech was felt like electricity. Every thing seemed to yield to the resistless torrent of his reasoning but the obstinacy of party spirit, which is rarely conquered by wit, eloquence, or demonstration, caused insuperable difficulties with the jury, and they returned into court without agreeing. The friends of the gentleman charged with the misdemeanor, had the magnanimity to say, that the argument of Parsons was never surpassed.

When he came to the bench, there had been much done, but still there was much left to do, and he set about making a thorough reform. The docket was crowded with cases, for the business then was great and increasing, and the methods of dispatching it rather slow. The arrangement of holding Nisi Prius terms had but just got into operation, and all the beneficial effects of such an alteration were not yet known. He shrunk from no labor, however severe, to finish the business of the term; and roused parties and counsel to extraordinary exertions o vigilance and punctuality. At al times he went on with such rapidity, that he excited the murmurs of counsel and clients; but on the whole, the good effects of this new course were seen and acknowledged by most people who had any thing to do with courts of justice. The court, although they were high-minded and learned men, and were nobly struggling for reform, had not been entirely purged of the old leaven of respect for persons. Names had still great weight with them; and a client was obliged to consider as much how his counsel stood with the court, as he did the justice of the cause; but at the approach of Parsons, the influence of names, and of seniority, sunk and died away; and every lawyer who discovered learning, attention to his cause, and industry, ingenuity, and fairness in advocating it, was certain of an impartial trial. He knew nothing of the witchcraft of names. The jury had the cause from him, and he directed the course of reasoning they should pursue, not like one of those little minds which shows not the power of the argument, but the influence of the man who made it. He

took a pride in bringing forward merit found in any honest form, and was indulgent even to imbecility and ignorance, if he thought they proceeded from incapacity, and not from idleness. The sins of indolence and negligence, were with him forever unpardonable, and he exposed the listless and careless, but always threw his mighty shield before the feeble and oppressed, to protect and save them.

While he was chief justice, which was from May, 1806, to October, 1813, there were probably more causes tried in the supreme judicial court, than there had been for the same number of years at any period of our history. In addition to the business of the court in the trials of fact, the law terms must have absorbed a great portion of the time of the judges. The reports of cases heard and argued at these terms during the time he was chief justice, fill more than eight volumes, of five hundred pages each. On the share he had in settling and declaring the law of the land, he seemed willing to rest his fame, for he has left but little else in print. These legal opinions are an imperishable memorial; a monument more durable than brass, erected on a basis that no changes in the civil world, or convulsions in the political, can ever deface or destroy. The stains of blood on the warrior's sword soon turn to rust, and his laurels, if they do not wither, are in a short time shaded and hidden by many rising plumes; but the intellectual influence of a great mind spreads over the moral or legal page, when it becomes sufficiently distinguished to be a standard in morals, or considered as authority in the courts. The moral and legal labors of Montesquieu, Paley, Burke, Mansfield, Parsons, and others are perennial sources of wisdom and knowledge—fountains which constantly refresh us with sweet and living waters.

He was a politician of extensive and bold views; careful in fixing principles, but when they were established, fearless of their consequences. He was also a consistent statesman. It is true that he turned with disgust and abhorrence from the mawkish and wicked forms in which liberty was exhibited, when the most accursed ambition was concealed by apparent humility, and the dagger of Cataline was hid under the robes of a tatterdemalion. When his political opponents were full of clamor and violence, at what they thought his aristocratical sentiments, if they had been asked to point out a principle that he ever strove to establish that was not built on pure republican notions, where could they have found it? Do his early labors show any thing that is not such as all men in this country would be proud to own? Did he ever in the latter part of his life oppose that which in the former part of it, he had assisted to establish? No: his principles were the same, though his estimate of particular men and measures might have changed.

Soon after his acceptance of the office of judge, he came to his native county of Essex, to hold a court, and there, in his charge to the grand jurors, he took occasion to develop the nature of our republican institutions, which had grown with our growth, and strengthened with our strength; and declared if he knew his own heart, that he had ever loved and cherished them as invaluable. If he had ever possessed the disposition to pull down these recent establishments, could he not in his native state have done incalculable mischief, and like the strong man, have torn up and carried off what portion of the citadel he chose. In the darkest hours of our political history he never despaired, for he believed that there was a redeeming spirit in the people, and that all things would come right. He slept in quiet, when many of his political friends were filled with dreams of horror, and their imaginations created evils more numerous and dreadful than mortal tongue could disclose. It would be extraordinary, if the opinions of a distinguished public man, through more than forty years of active life, could all be defended as sound and judicious; but the writer hazards nothing in saying that no opinion Parsons ever held forth to the community, will be found to be corrupt; and he believes that but few that he gave will ever be shaken. His sympathies were strong, but his feelings were under perfect control. He had none of that cold-

ness and indifference which possess the hearts of many whom the world call great men, whose intellectual light is like the sunshine upon the glaciers, brilliant and beautiful to distant vision, but which has neither warmth nor life in it, and which freezes the blood when approached. I have often heard the most humble of the people in his neighborhood speak of his kindness to them when in difficulties. If they and their cause were honest, he never delayed giving assistance until he could calculate the chances of remuneration for his services. To people in the common walks of life who made no appeals to his charity, his charges for services were, at least, as reasonable as those of ordinary men in his profession. He was also through life the champion of the clergy, and when any one of them had the misfortune to be a party to a suit in court, whether he was rigid or liberal in his sentiments, Parsons was ready to be his advocate, and although he assisted many, never was known to take a fee for advice or argument from a minister of the gospel.

The *nil admirari*, which is so often considered as the motto of great men, he never affected to wear as his; but was always ready to admire and praise such works of learning, taste, and genius, as his good sense pronounced worthy of public notice and esteem, regardless of the doubts of those who acted as critics, or without waiting to catch the popular opinion of their merits. The poets and novelists of the present day, Byron, Scott, and others, whose reputations were for a long time doubtful—the young praising them without measure or reason, and many of the graver sort abusing them with even more disregard to truth, were read by him, and criticised with a prophetic correctness. He saw the excellencies and defects of those masters, almost as soon as they appeared, while they were yet in the dawn and youth of their fame. Although the gold was surrounded by base metals, he knew its fineness from the specimens he had examined, and could judge of the richness of the mine from whence it came. If he was ever severe in his criticisms, it was on the productions of wicked wits, and false philosophers, whose aim and interest were to mislead and destroy. He hated the whole tribe of those declaimers who broke down the old distinctions between virtue and vice, and endeavored to lead young and tender minds from the paths of labor and virtue, to idleness and profligacy. In recommending books to guide the young to habits of industry and virtue, he generally selected those of a sound and robust philosophy, and those least connected with the cant of infidelity. He never doubted the progress of knowledge, or questioned the march of the human mind towards a higher, and purer moral and political elevation; but he never was allured by the dreams of Condorcet, or ever substituted reason for Deity, or chance for Divine Providence. A firm believer in the Christian religion, he lived long enough to see the race of sciolists and blasphemers despoiled of their false glory, outcast, trodden under foot and swept away—long enough to hail the commencement, and mark the extension of a higher system of ethics, and a holier religion than had ever been cherished; a system equally free from the narrowness, bigotry, and corruption of early opinions, and the latitudinarian principles, and unhallowed spirit of the philosophy just gone by. As he approached the confines of old age, his fondness for mathematics and divinity increased. The pure sciences are rays of light emanating from divine intelligence, which the human mind can see only in refractions and reflections after they have fallen upon the earth; but still, man is elevated and purified by the illumination around him. Frequent contemplations on these subjects places him as it were in the presence of his Maker, secures his faith in the promises of revelation, and takes away all the darkness from the grave. How delightful is such a preparation for eternity, compared with that we too often witness—gray-headed avarice, holding with fiercer grasp a farthing filched from penury—aged vanity panting and struggling, and lavishing his stores, to gain another shout, and one more hosanna from the mob, before all is silent forever: or decrepid ambition blowing his ineffectual fires to raise himself one more earthly step before he totters, falls, and everlastingly perishes. His pursuits, whatever

they were, never made him dull or tame; there was at all times a readiness and freshness about his intellectual faculties that was peculiar to himself. Towards the close of a long uninteresting and dull speech of counsel, when almost every other person was regardless of what was said, he was still attentive, and would recollect the whole course of the argument, as if he had been listening to the most delightful lecture.

An inordinate love of wit is often a concomitant of genius. The Greek writers abound in antithesis; Cicero frequently made an attempt at wit, and Shakspeare, in his loftiest flights of imagination, left the celestial elevation, to "chase a quibble, or run down a pun." Parsons was loved and dreaded as a wit. It sparkled in his conversation, entered into his arguments at the bar, and his remarks upon the bench, but was entirely excluded in his solemn discussions. No one could conjecture from his written opinions in the Reports, that he ever indulged this propensity for amusement. But few men ever succeeded so well in repartee, in pointed remarks, or in playful allusion. His fine sayings as a wit, if collected, would make a volume, which might be compared with the Footeiana; but this collection will never be made; our Johnsons have no Boswells.

Parsons was a man of large size, five feet and eleven inches high, broad, and corpulent; his appearance heavy, yet dignified. The features and muscles of his face were large, bold, and striking; his forehead high, smooth, and benign; but the fine cast of it was in no small degree lost by a wig which he wore from early life, having become bald at thirty years of age. This appendage was not always made in the most fashionable style, and was frequently, after a fit of abstraction, "in most admired disorder." His eyes were blue, tinged with hazel-grey, and when thoughtful, seemed sunken, or fixed; but when he was excited, or caught a new train of thought, they shone and twinkled with peculiar lustre. From sedentary habits, and severe attention to his books, his constitution, naturally strong, was shaken, and his nerves diseased. He felt himself subject to all the "skiey influences," and dreaded an east wind, as bringing pestilence on its wings. When, in the course of his professional business, he could not avoid meeting this enemy, he guarded himself with a great quantity of clothes as a protection. These splenetic feelings, no doubt, arose from the intensity of his application in youth. Had he been bred a farmer, he would, in all probability, have been as fearless of the elements as any yeoman of our bleakest hills, for nature had given him height, bone, and muscle for strength and hardihood.

He married, on the 13th of January, 1780, a daughter of the Honorable Benjamin Greenleaf, and had a numerous family of twelve children, three sons, and four daughters of whom are living: and no man ever enjoyed more with his family than he did. In his domestic circle, he was always the instructive friend, the kind husband, and the indulgent tender parent. Many great men are retired, severe, or distant in domestic life. Absorbed in their studies, they are unwilling to be disturbed by the ordinary occurrences of life; and if not unamiable, are seldom communicative and pleasant; but it was not so with him, for he shared in the amusements, and directed the studies of his children with the fondness and solicitude of a man who had no great cares for others on his mind.

In every path of literature and science, the fallen flowers of hope and promise are scattered and lost. The canker-worms are concealed in the buds, and as they open to diffuse their fragrance, the work of destruction begins. Many, who safely passed the days of youth, "and were early wise for their country's weal," have died in the meridian of their days, while laboring for the good of mankind. Pitt, Jones, Hamilton, and others left the world in the summer of life, before a single chill of autumn had seared a leaf, or changed a hue of their honors. The world deplores their untimely loss, and weeps at their monuments, revolving the mysteries of Providence. But the distress we feel, when thinking of all they might have done, is nothing so severe as the pain we suffer in brooding over the ruins of a mighty mind. Newton, who "unfolded all nature's law," long survived his intellectual vigor. "Swift expired a

driveller and a show;" and Trowbridge, who had once instructed Parsons, could hardly in the latter part of his life comprehend his own legal decisions, made in the strength of intellectual power. The subject of this sketch neither lived too long, nor died prematurely; but at the time when his mind was yet unimpaired—when his services had reached a goodly measure—when his fame had spread far and wide, and settled on a permanent basis, he closed his labors, and finished his record.

Benjamin Pickman was born in Salem in 1740. He was the son of a distinguished merchant in that town and was graduated at Harvard College in 1759.

He entered his father's counting room after leaving college, and soon took a high stand in society.

When the revolutionary war broke out he was Lt. Colonel of the Salem regiment, but he had not made up his mind that the time had arrived for a separation of the two countries. He was a friend to his own, but could not come to the doctrine of a sudden dismemberment. He went to England under a furlough from the legislature, and there did much good in assisting the unfortunate who were taken prisoners in the first years of the struggle. His wife and family remained in this country until the war closed, and of course his estates were not confiscated. In 1784 he returned to his native land, and was greeted with kindness by his old friends. He now commenced business again as a merchant, but in the British spoliations lost no small part of his property. The treaty made by Jay returned him his property, and the fair interest on the same. He now relinquished all business, took his money and invested it in American stocks, and lived on its income,—most ample means for his purpose. His table was one of the best in the country. He was classical, delicate in his feelings, and unshaken in his opinions, and every one was satisfied with his hospitable board. His conversation was generally directed to ancient history or to that of our country. He was at home in either, but made no parade of his learning. He was a man of no ordinary talents, and of more than ordinary taste in classical literature. As an antiquary he was second to none; he garnered up all that was curious or strange in his neighborhood, and was ready to give it to the public provided his name could be kept out of sight.

He now placed the enjoyments of life in ease, and never swerved from his principles. He was blessed with an excellent wife and a delightful family. They were around him and administered to his comforts. He had three sons and two daughters and all were devoted to his happiness. He rejoiced in the success of all he knew: his heart was full of philanthropy.

His person was noble, his height over six feet, his countenance quiet, calm, but manly, and hardly bore the ordinary marks of age. In the 81st year of his age he sunk to sleep without having suffered many of those pains and aches which mortal man is liable to, in this scene of struggle and anguish.

There were but few men in this world of so good a disposition, fewer still of so much intelligence or refinement, and none of greater purity of character.

Elisha Perkins, was born at Norwich, state of Connecticut, in January, 1740, and was educated for the medical profession by his father. He possessed by nature uncommon endowments, both bodily and mental. In his person he was six feet high and of remarkable symmetry.

His ability to perform active professional business was extraordinary; he frequently rode sixty miles a day, and generally on horseback, and this without the aid of artificial stimulants, never making use of ardent spirits. He had contracted a habit altogether peculiar to himself. When making his professional visits and inclined to sleep, he would hand his watch to a person and throwing himself on a bed or couch, give orders to be waked in five minutes precisely; if suffered to sleep six minutes, he would know by his feelings that the time had been exceeded, and whenever the time of sleep exceeded by one minute his rule, he invariably would say that he felt the worse for it. By this practice he was enabled to perform his duties with three or four hours sleep in the night for many weeks in succession though subjected to great fatigue.

Having descended from respectable ancestry, who had possessed a distinguished influence in the medical profession in that vicinity, he attained a considerable reputation and popularity. His acquaintance was very extensive, and his great liberality and social habits allured to his house gentlemen from different parts of the country, and his inquiring mind seemed ever to search for something new in every sphere which could better the condition of the human family. He had a happy facility in communicating his views, and turning to some valuable purpose such information as he could derive from others. He made great sacrifices in establishing and supporting an academy in Plainfield, and other useful improvements in that town. He was esteemed as a man of strict honor and integrity of character.

Dr. Perkins entered with peculiar zeal into a new project for the cure of diseases, which gained no inconsiderable celebrity at the time of its promulgation in 1796. Conceiving an idea that metallic substances might have an influence on the nerves and muscles of animals, and be capable of being converted to useful purposes as external agents in medicine, he was induced to institute numerous experiments with various kinds of metals, till at length, after several years pursuit of the object, he discovered a composition which would serve his purpose, and from which he formed his metallic tractors. These consisted of two instruments, one having the appearance of steel, the other of brass. They were about three inches in length, and pointed at one end; and the manner in which they were applied was, by drawing the points over the affected parts in a downward direction for about twenty minutes each time. The complaints in which this operation has been found most useful, according to Dr. Perkins, are local inflammations in general, pains in the head, face, teeth, breast, side, stomach, back, rheumatism, &c. Dr. P. obtained a patent for his discovery, and travelled through the country to disseminate his new practice, and his career was attended with great success. Numerous cures were effected by the employment of the tractors in his hands and in those of others. His enthusiasm pervaded all ranks, and received the countenance of many enlightened physicians and philosophers. Pamphlets were published to explain the modus operandi of the new remedy, and the professors of three universities in America gave attestations in favor of its efficacy. The operation was alleged to be similar in its principles to animal magnetism, or, according to some, animal electricity or galvanism.

The fame of the metallic tractors soon reached Europe. They were introduced at Copenhagen in 1798, where twelve physicians and surgeons, chiefly professors and lecturers in the Royal Frederick's Hospital, commenced a course of experiments, and reported the result to Professors Hernholdt and Rafn. The experiments, fifty in number, were deemed sufficiently important to demand publication in an octavo volume. The professors introduced the term Perkinism in honor of the discoverer, and asserted that it was of great importance to the physician. "We do not find it possible," say the professors, "to apply with any justice against Perkinism, the arguments and doubts which have been raised against animal magnetism. Our experiments have demonstrated to our satisfaction that there is a great deal of reality at bottom." This book was translated into German by Professor Tode, Physician to the King of Denmark, and thence into English by C. Kampfmuller. After the death of Dr. P. Mr. Benjamin D. Perkins, his son, repaired to London, and securing a patent, immediately published a tract on the discovery. Soon after this, Dr. Langworthy of Bath, having recently returned from America, commenced a course of experiments at Bath and Bristol hot wells, with a view of ascertaining the merits of the tractors. The result was published in a pamphlet, containing a collection of cases, highly creditable, as he judged, to the metallic practice, with ingenious observations on the theory of their operation.

In 1804, the Perkinian Institution, as it was called, was established in London, chiefly with the view of benefiting the poor by the use of the tractors. The Right Honorable Lord Rivers was President, and Sir William Barker, Vice President of this insti-

tution, and funds to a large amount were obtained by donations and subscription. In a pamphlet entitled an account of the Perkinian Institution, published in London in 1804, it is stated that the communications of cases are from disinterested and intelligent characters from almost every quarter of Great Britain, and that amongst others whose names are attached to these communications, are eight professors in four different universities, twenty-one regular physicians, nineteen surgeons, and thirty clergymen, twelve of whom are Doctors of Divinity. The cases published, amounted in March, 1802, to about five thousand. Supposing, says the writer, that not more than one cure in three hundred, which the tractors have performed, has been published, and the proportion is probably much smaller, it will be seen that the number to this time has exceeded one million five hundred thousand! In answer to the objection that the cure was effected merely through the influence of the patient's imagination, the promoters of the Perkinian Institution asserted that multitudes of cures were performed on infants, and even on horses, where of course such influence could not be presumed to exist.

Such is the history of the metallic tractors. It is to be considered a singular and unaccountable circumstance that the remedy should have been consigned to oblivion. Is it within the bounds of probability that the vast amount of authenticated evidence that has been produced, should be resolved into a delusion, a mere phantom of the imagination? However enthusiastic the promoters of the novel discovery may have been, it is most clear that autoptical evidence was in every instance at command, and might have precluded the possibility of deception. If, therefore, Perkinism has shared the fate of animal magnetism, there is no sufficient reason for supposing that its discoverer should be placed in the same class with Mesmer, as he undoubtedly was a man of honorable principles and character.

Dr. P. directed his benevolence to another object of considerable importance in medicine. He introduced into practice a remedy consisting of a combination of the vegetable with the muriatic acid in the form of common vinegar saturated with muriate of soda. This diluted with three parts of hot water in the dose of a table spoonful, he administered with great success as a powerful antiseptic in the low state of dysentery and ulcerated sore throat. During the prevalence of yellow fever in New-York, in 1799, he visited that city, to avail himself of opportunities of testing by experiment the efficacy of the abovementioned highly antiseptic remedy, believing that antiseptics had been too much neglected in that formidable disease. After about four weeks unremitted assiduity in attending the sick, he took the disease himself, of which he died at the age of 59 years.

His son Benjamin D. Perkins, who visited England with the tractors, died in New-York, in the year 1810. He was graduated at Yale College in 1794. He sustained a character of inestimable worth; was frank, honorable and discreet; in morals exemplary, in religion undissembling and devout.—*Thach. Med. Biography.*

James Perkins, a distinguished merchant of Boston, was born in 1760, and died on the 9th of August, 1822. He entered upon the business of life and was an active and enterprising merchant at the peace of 1783. This was a period, of all others in our history, or perhaps in any other, the most propitious for a man of fine mental and moral elements to form his own character in the mercantile profession. Then in the United States there were no sturdy and unyielding maxims drawn from prudent predecessors in trade, and to which every one must conform, whether they were agreeable to his sense of moral integrity or not. The world was before the enterprising, and they made their own calculations without possessing those numerous results of experience which are now at the command of every one. The house, at whose head he was till his death, has been considered for many years among the first establishments in the country for extensive and important concerns, for good faith, punctuality and success.

In New England, mercantile men have, since the revolution, held the first rank in society; and, by increasing in numbers and in property,

they have generally directed the destinies of the community, and given a cast to the character, and, of course, are, in a great degree, responsible for the reputation of the present age. There were no classes of men to come in competition with them. The learned professions found it politically and morally just to identify their interest generally with those of mercantile men. The agriculturalists were not sufficiently rich to feel jealous of the merchant, and the manufacturer was then hardly known. This powerful class of competitors have arisen within a few years, and will increase for centuries. So situated, it was natural that merchants, having the wealth, should have become almost exclusively, in this part of the country, the patrons of the arts and sciences. They have been so; and their praise is commingled with every strain of gratitude, heard in our rising institutions for the public good. This golden age of the mercantile honor and prosperity, can never return. It was peculiar and felicitous. Trade may flourish, as it has heretofore; but rivals to its interests will dispute its former supremacy; and the military, naval, manufacturing, and other classes of men will contend for a share of the power, and will get it. It is a proud reflection, however, and one that we will cherish,—that during this period of their glory, the merchants have been conspicuous among the elevated, the generous, and the patriotic. Had Burke lived to this day, and could he have had an opportunity of fairly analyzing the mercantile character, and of knowing it thoroughly, he would have retracted his bitter denunciation against a profession, in which if there be, sometimes, something to blame, there is always much to praise; or, at least, he would have done it as far as regards us.

Is there not something singular, and, indeed, on a slight view, something unaccountable, in our estimation of the *living* and the *dead?* The common merchant, while alive, the master of countless thousands, feels his influence extend to every relation in life. His smile is courted and valued, his frown is dreaded as some direful calamity; but he is no sooner dead, than his influence and himself are forgotten, and his mightiness transferred to his heir, or to some successful accumulator of wealth. It is remembered, perhaps, that he did exist, that he pursued and enjoyed, nobly, during his brief hour, and left others to fatten on the full harvest he had gathered. There are others, but little known while living, who then had neither influence nor power, and who are no sooner gone to moulder in their narrow bed, than

> Honor comes, a pilgrim gray,
> To bless the turf, that wraps their clay

This distinction is only justice deferred. Those who live for themselves alone, like Dives, may fare sumptuously every day, and command the applause and homage of the multitude; but this lasts only with life. Others, who do not attract attention, but are constantly laboring for the good of mankind, often live unrequited, but there generally comes an after justice that struggles to repair the former neglect, and the names of such benefactors are held in reverence, and go down to posterity in sweet remembrance. But what is said of the oblivion of most men, will not apply to the distinguished merchant, whose death is now generally deplored; for the properties of his character were indestructable, it was thought by the ancients, that he, who did homage to any one of the muses, was certain of a celestial existence in the Elysian fields. How much more is he entitled to enjoy the realms of light and love, who has opened his coffers to enlarge our views of nature and theology—to soothe and heal the maladies of the mind, and who has generously removed his own household gods, without entreaty and without compensation, that the votaries of letters and science might make for themselves a temple worthy of the taste and refinement of Athens.

Mr. Perkins was *intelligent*,—well acquainted with the geography and commerce of the world,—and ready, at proper times and opportunities, to communicate his information when it would afford any practical benefit to his friends or the community. He was *enterprizing*, but had nothing of that foolish anxiety to monopolize every branch of trade, because it might be profitable—nothing of the restlessness of little minds who are

in perpetual dread of younger competitors, who might strike out a new path to wealth, and get beyond them. He was an *industrious* man, assiduously and carefully watching his large concerns, but never suffered himself to indulge in that poignant distress which some men feel who have much at risk. His equanimity was not disturbed at a loss, nor did his heart overflow at a fortunate voyage; for he believed that when he had done all in his power to ensure success, he ought to leave the event to providence. His views were liberal in the course of business; in which even men liberal and generous in other respects, are often severe. He did not think, as some do, that human beings he had used as means to gain his property were to be treated as slaves. No seaman was ever heard, on the longest voyage, to curse him for short provisions or mouldy bread, and his agents of more responsibility were never kept starving at home and abroad by a penurious policy. There was nothing cheap about him—nothing mean in his business. His plans were extensive, and his arrangements above board. He was domestic, accessible, hospitable and courteous, and never discovered any of that pride of purse so often the concomitant and the disgrace of men who are the builders of their own fortunes.

In aid of all these virtues, which exalt and adorn human nature, charity had shed her kindliest influences on his heart, and the silent, hidden streams of her inspiring bounty were in constant flow to cheer and bless the humble and unfortunate.—

> Spirits are not finely touched,
> But to fine issues.

To this delicacy and liberal feeling, was superadded a munificent disposition, which identifies a great and opulent man with the history and honors of the age in which he lived. Like the head of the Florentine merchants, Perkins, and, indeed, if we may venture to speak of the living, his family, too, have done much for the charitable, the literary, the mercantile, and political institutions of the country. Under the direction of a high-minded man, wealth has a sort of holy value. Gold in the hands of such men seems, as it were, beaten into vessels of the Lord, and kept in the sanctuaries of knowledge and religion, not only for the use of the present but for future generations; and every succeeding age inscribes on them some deathless memorial of such benefactors.

Man, acquiring wealth, is fulfilling a duty—in saving it he is prudent and praise worthy; but in distributing it for general and permanen purposes, for the benefit of mankind, he is an elevated and godlike being, in whose actions, self is forgotten, or becomes a secondary consideration. By this noble exercise of his faculties and his means, a finite creature gives perpetuity to his own deeds, and is allowed by his beneficent Maker to claim kindred with him in spirit and immortality.

John Penn was born in Virginia on the 17th of May, 1741. He was a self-taught man, but possessed high intellectual powers and became distinguished among his fellow men. He studied law, and with the preparatory learning, came into notice with the rapidity of a meteor. In 1775, he was sent from North-Carolina to the continental congress. He was elected for several years to that body. He died September, 1788, aged 46 years.

Samuel Phillips was born in Andover, 1752, and was educated at Harvard University, and graduated with the class of 1771. He was the only child of an opulent gentleman, and never thought of pursuing a profession for his support; but, according to the custom of the times, he read law and divinity with attention for several years. In 1775 he was elected from his native town a member of the provincial congress, and although quite a young man, was soon distinguished for a most solemn and convincing eloquence. He was often chosen to the legislature after that period. He was for many years president of the senate of Massachusetts, and was distinguished for his exactness, promptitude, and impartiality in his office. During many of these years he was a trustee of Dartmouth college, of Exeter academy, and also of the institution of Phillips' Andover academy, founded by his father and himself. In the cause of learning and religion he was never tired. For several years he held a seat on the bench of the court of

Common Pleas, and discharged his duties in that office with great credit to himself, and with great advantage to the community. Mr. Phillips was amongst the first who introduced useful manufactures into his native state. Early in the revolution he established a powder manufactory, and made large quantities of that article, so difficult to be obtained from abroad during the war. For this article, he was obliged to give long and doubtful credit; but he continued the business as long as the exigencies of the nation required it. He added to these works a paper-mill, and made a large amount of writing-paper, of an excellent quality, when the business was carried on with disadvantage, being obliged to import workmen from foreign countries, at no little expense and trouble. He filled up every hour of his time with doing something for the public good. For many years of his life he labored under a severe asthmatic affection, which was enough to break down the spirits and destroy the usefulness of any common man; but, as he felt that life was short, he redoubled his exertions that he might be useful in his day and generation. He extended his business so far to be useful, that although always opulent in fact, he was often embarrassed in his pecuniary affairs; and this was not unfrequently used to influence his political course by the monied interest, to some of whom he was under obligations for loans; but his integrity was invincible, and he acted as firmly as if he had not been indebted a cent to any being on earth. His independence was afterward a theme of praise to those who wished to control his conduct. He emerged from all his difficulties a rich man, without having for a single moment compromised his integrity or honor. He was fearful of giving bank charters to men to do extensive business as banking companies, without any farther security to the public than the property of the corporation would afford. He had then in his possession large sums of continental bills, for which a good and valuable consideration had been paid, and which had become as useless as a filthy rag, although the property of the whole nation had been pledged for its redemption. This was cause enough to excite suspicion of paper money. That banks flourished in this country is rather a proof of commercial prosperity than of the soundness of the system. The people of the United States have suffered since the adoption of the federal constitution the loss of more than thirty millions of dollars, by the failures of banks. Rhode Island and New York have found it necessary to resort to strong measures for the safety of banking institutions.

In 1801, Mr. Phillips was elected lieutenant governor of Massachusetts, but his health was gone, and he died of exhaustion on the tenth of February, 1802, in the fifty-first year of his age. His talents were of a high order; he was well grounded in classical literature and general learning; but he was always too busy to become an extensive or profound scholar. What he gained was wholesome practical knowledge, without any trash about it. He never wasted his time and energies upon vague theories, but seeing at once the correctness and practicability of a proposition, or its inutility, he decided with readiness what course to pursue. He had two sons; one of them, of great promise, died young and the other outlived him. But, partial as he was to his own children, he was not selfish or exclusive, but took a parental care of all those who received their elementary instruction at his academy.

His eloquence was of a high order. His voice was strong, and under excellent command; and his enunciation was so clear, that when exhausted by disease, he could fill the largest room with ease. He was frequently solicited to take a part in the counsel of the nation, but his numerous engagements would not permit him to leave his native state for any length of time. One of his last requests was that there should be no military parade at his funeral, as was customary when a governor or lieutenant-governor died in office. This request was made from a tender solicitude for the health of the officers and soldiers who might be called out on such an occasion. He recollected that the season was inclement, and that their danger would be great. The legislature was in session at the time of his death, and

the members, with the governor and council, attended the obsequies of the man they held in veneration. The deeds of such men live after their monuments have crumbled to dust.

John Phillips, first mayor of Boston, was one of those valuable men, whose virtues deserve an ample page in the annals of this commonwealth. He was truly a New England character, such as would have been distinguished in any age of our history. His piety and his tenets would have delighted the early settlers; and these qualities with his liberal views of duty and society, and constant exertions for the public good, gave him a high rank in the times in which he was called to act. He was descended from one of the earliest settlers in the Province of Massachusetts Bay, who came for liberty of conscience to this new world, to build up a church of God after their own views of religious duty. The first of the Phillips family in this country, was George Phillips, a clergyman; he was born in Raymond, in the county of Norfolk, England, and came to America in the year 1630, with Sir Richard Saltonstall and was sent by Sir Richard and his associates to Watertown, where he was the first minister, and officiated for fourteen years with great credit to himself and advantage to the cause. He died in 1644.

Samuel Phillips, his eldest son, graduated at Harvard College in 1658, and was ordained at Rowley, in the County of Essex. Samuel Phillips, the son of Samuel, settled at Salem as a goldsmith; was born at Rowley in 1658, and died in 1722, having left two sons. The eldest, *Samuel*, was educated for the pulpit, and settled in the South Parish, in Andover. He, as well as his forefathers, was distinguished in the churches, and has left some sermons of considerable metaphysical acuteness.

The youngest son of Samuel Phillips, of Salem, was John Phillips, a merchant in Boston. He filled, with great credit to himself, numerous offices in church and state—was a colonel of the Suffolk regiment when he died. His son William was also a merchant, but died young, leaving four children, the youngest of whom, the subject of this memoir, was born in Boston, November 26, 1770, and educated by his mother, having lost his father when only about two years of age. His mother Mrs. Margaret Phillips, was the youngest child of Col. Jacob Wendell, a merchant of Boston, who died in 1761. Mrs. Phillips was a woman of strong mental powers, and of great energy of character. She was left a widow in those days of anxiety, uncertainty and confusion, which preceded the shock of the revolution. Her husband's business was, with most others, at that time, greatly embarrassed, but she was not discouraged—assuming every thing herself, she went on with caution, calculation and enterprize; educated her children in the best manner, cleared her property of all incumbrances, and took a high and independent stand in society, by her own character and exertions. At all times her mansion was the abode of industry, order, hospitality and piety; and she lived to a good old age, to enjoy the fruits of her exertions. Her son John, was sent to Phillips' Andover academy, when he was seven years of age, which was then under the care of that profound scholar, Dr. Eliphalet Pearson, who has since held a professorship in Harvard University and in the Theological Institution in Andover; but has now, in his old age, retired from intellectual labors, to enjoy the setting sun of life in repose, out of the hearing of the disputes of the academy, or the harangues of the metaphysicians. He was unquestionably the first instructer of his age; he had, it is true, more severity in his discipline than would suit modern feelings, but he cherished genius, excited emulation, and gave tone and character to minds under his tuition, and thoroughly grounded his pupils in the true elements of letters and morals. Young Phillips had other high advantages for improving his mind and manners, for he lived in the house of his kinsman, Samuel Phillips, which was also an admirable school for youth. The master of the mansion was truly a great man, distinguished not only for the numerous offices he held in civil and political life, but for his ardent desire to promote the cause of religion and learning in the land, *believing that the permanency of*

our freedom depended upon the diffusion of knowledge amongst the rising generations. His father, his uncle, and himself, had founded an academy for the great ends he had in view, and no pains or expense were spared to give the institution a high stand amongst literary and scientific seminaries. Many young men were permitted to live in his house, and he took so deep an interest in the pupils of the academy, as constantly to keep in view their course of study, and frequently to question them on the subject. In these dialogues, he used the choicest language himself, and was careful to correct the youths who suffered a low, inappropriate, or equivocal word or expression to escape them. In all this, his manner, though solemn, was kind, and encouraged the most timid to answer his inquiries, and put interrogatories with freedom. Mrs. Phillips, his lady, was of still more importance to those under their care, than her husband. She possessed a mind cultivated by extensive reading, and manners refined by early advantages, and a long acquaintance with the best society. She was blest with a fine flow of spirits, a rich imagination, an affectionate heart, and acted the fond and anxious mother to all under her roof, or within the reach of her care. It was impossible for any one to live with her a month without understanding the value of a pure, elevated and polished woman, in the education of men.

Phillips left Andover for Cambridge in 1784; and while at college, was conspicuous for manly deportment and orderly conduct, which secures the respect and confidence of all around—those who govern, as well as those who obey. In 1788, he left the university with a very exalted reputation—a man of principle and a scholar; having had assigned to him one of the most honorable parts in the exercises at Commencement. After leaving Cambridge he entered the office of the late judge Dawes, and read law for three years, and was then admitted to the Suffolk bar, before he was twenty-one years of age. His late master was then in full practice, and with a kindness and generosity which never abated in him to the last days of his life, was active in bringing forward his pupil to public notice; and the young lawyer's intelligence, urbanity, industry and integrity, were soon rewarded by a large share of professional business. He was not only known as a well read lawyer, but had a very high reputation for literary attainments, and his productions fully prove that he was in advance of the literature of the day. At this period, the French writers had corrupted the purity of English literature, and made a loose and extravagant style the most popular—wholesome, expressive, and legitimate words, were proscribed, and others of a new coinage substituted, which gave a sort of Harlequin dress to common thoughts. Mr. Phillips, if we judge from his compositions, was not carried along with this current in the fashion of literature; but scouted the nonsense of the Della Cruscan school, as deleterious in principle, and false in taste. In 1794, he was called to pronounce an oration before the inhabitants of Boston; which production bears the finest marks of intellectual vigor and correct principles. It was at the precise time when Lafayette was languishing in the dungeons of Olmutz; and his apostrophe to the sufferer in the cause of liberty, was both pathetic and prophetic. "Fayette," said the orator, "the apostle of liberty, was abandoned by the people whom he saved, and became a victim to despotic cruelty and cowardice. The damp, poisonous exhalations of a gloomy dungeon, now incircle and chill that bosom, whose philanthropy was coextensive with the universe, whose patriotism no power could extinguish, no dangers appal. But, illuminated by the rectitude of thy heart and the magnanimity of thy virtue, the trickling dews of thy prison walls shall sparkle with more enviable lustre, than the most luminous diadem that glitters on the brow of the haughtiest emperor." So well was this address received, that extracts from it were for a long time going the rounds in the newspapers of the day; and some of these extracts have a permanent place in our school books, as models for our youth.

This year, 1794, Mr. Phillips was married to Miss Sally Walley, daughter of Thomas Walley, Esq., a re-

spectable and wealthy merchant, for many years a selectman of the town of Boston. They had a numerous family of children, eight of whom survived him—five sons and three daughters.

In the year 1800, the population of Boston had so much increased, that it was found necessary to petition the legislature to establish a municipal court of criminal jurisdiction for the county of Suffolk. The supreme judicial court, and the common pleas, had become burdened by the numerous entries on the criminal side of the docket, and parties in civil actions suffered tedious delays, while the courts were engaged in gaol delivery. The prayer of the petitioners was heard, and a court was created. Judge Minot, a gentleman alike distinguished for his learning, talents and humanity, was appointed the first judge of the municipal court. The good people of Boston having often heard of the heartlessness of a public prosecutor, who had been engaged in bringing offenders to justice for a long time, were disposed to keep this office in their own hands; and this was, at that time made a feature of the bill for establishing the court. They looked around them for a man of talents and benevolent disposition—one who knew what was due to public justice, and knowing, would be able and willing to vindicate the insulted majesty of the laws, but one who, at the same time, would have some feelings of compassion, amidst the pride of office. All eyes were turned upon Mr. Phillips, and he was annually elected town advocate, until, from a pressure of other business, he declined being a candidate for the office.

In 1803, he was chosen to represent his native town in the general court. In this situation he was at once noticed by the old members, and took a prominent part in their deliberations, though it was not common for young men to come forward in debate the first year of their legislative course, but he was urged to do it by his best friends. He was not permitted by his constituents to remain in the popular branch of the government, for their fondness for him, raised him the next year to a seat at the senate board, a place which he kept until his death, by twenty successive elections; and for ten of these years, he was chosen president of that honorable body—an office which he sustained, in the conflict of party times, with dignity, ability and impartiality, as his political opponents have acknowledged, in the most flattering terms of affection and respect.

In 1809, Mr. Phillips was appointed a judge of the court of common pleas, by Governor Gore, and held the office until that court was abolished for one differently constituted. He was popular as a judge; his manner of trying a cause was fair and gentlemanly, without any of that petty, vexatious exercise of power, which we have sometimes seen in former days, merely to show that such power existed; and the bar placed great confidence in his decisions, and always spoke of the soundness of his law, as well as the courtesy of his manner. He was also a member of the convention called to revise the constitution of Massachusetts, in 1820. That body contained men, and not a few of them, of the first talents in our country—thorough bred politicians and civilians, physicians and divines of note, enlightened merchants, and intelligent country gentlemen—still Mr. Phillips held a distinguished rank in that august body; and in their debates was conspicuous for a knowledge of constitutional law, and a deep acquaintance with the feelings, habits, and wishes of the people of Massachusetts.

He was not only identified with the politics of the time, but with the letters and science of the age. For more than twenty years he was a trustee of Phillips' Academy, at Andover, and entered warmly into the welfare of that institution. He remembered how sweet were the early springs of knowledge which he drank there, and he spared no pains to keep the fountains open, that pure waters might flow for ages, to gladden successive generations. In 1812, he was elected a member of the corporation of Harvard University, and kept his seat at the board until his decease. This is an office of high responsibility, and it requires numerous and varied acquirements to discharge it properly. An impulse and direction must be given to young

men in the pursuit of letters and science; a liberal and impartial spirit should be found in the distribution of academic honors; and a true mean between parsimony and profusion must be discovered in the management and use of their funds. The public are interested in all, and are watching every thing which relates to the duties of that body. To hold this office for eleven years, without censure from any quarter, as he did, is no small praise. It would be useless, and certainly tedious, to enumerate the various offices held by Mr. Phillips—such as president of a bank, trustee or director of several pecuniary, religious and benevolent institutions, in which he was extremely useful to society; but the faithful discharge of all these duties go to show his readiness in transacting business. Yet, with all these duties, he never seemed to be a hurried, bustling man, but one who had leisure on hand. All this was accomplished by method, most surely; but the stiffness which men of great exactness generally assume, was never discovered in his course of labors. He seemed to be

"Led by some rule, that guides, but not constrains;
"He finish'd more through happiness than pains."

In 1822, the city government was about to be established, and one attempt had been made to elect a mayor, without success. Mr. Phillips was solicited to stand a candidate, in order to heal all dissentions; and after much persuasion he consented, and was almost unanimously elected to the office. This was a responsible and difficult situation. A great body of the citizens, a minority it is true, but a powerful one, was still fond of the old patriarchical system of the selectmen, under which they had prospered for so many years, and were fearful of the change. Others, believing that the old government was too imbecile for so large a mass of population, as were at this time the inhabitants of Boston, cried out boldly for reform, and energetic measures. The city charter although an instrument drawn with no ordinary skill and care, yet was found deficient in many things, as might have been expected, when we consider the wants of such a population, so long indulged with every nicety of municipal regulation and care. In carrying this charter into effect, the mayor adopted the wisest course. He took for his guide in all things, the maxim, "*In medio tutissimus ibis.*" Although he took no bold step, yet he never shrunk from that responsiblity his judgment deemed necessary to carry the intentions of the people into effect. Such was the general confidence, at that time, in his taste and judgment, that he could have directed pretty much as he pleased, in regard to the mode in which the mayor was hereafter to bear the forms of office. Some people were anxious for something of the *show* and *pomp* of other mayors, as a necessary mean for enforcing authority. Others seemed to dread a departure from simplicity, thinking that our liberties consisted, in a great measure, in primitive forms. He took his own course, and such an one as good sense dictated; and we are thereby probably saved, for ages, from witnessing the trappings of a *lord mayor's day*, or any loss of time at the annual organization of the city government.(*a*)

If he did not do all in this new office the reformers could require of him, still he committed no errors in the course of his duty, laid down no false principles, nor made any miscalculation to involve the city in debt or difficulty. The enlightened and energetic successor of Mr. Phillips, in examining the course which had been pursued by his predecessor, bore testimony to his exertions and prudence, by candidly stating that "it was impossible for him, after having examined the records of the city, to refrain from expressing the sense he entertained of the services of the high and honorable individual who had filled the chair of the city during the past year, as well as of those of the wise, prudent and faithful citizens, who composed, during that period, the city council." "The first administration," says he, "have laid the foundation of the prosperity of our city deep, and on right principles; and whatever success may attend those who come after them, they will be largely indebted for it to the wisdom and fidelity of their predecessors."

As a speaker, Mr. Phillips was

clear, forcible, conciliatory and judicious; his voice was strong, without harshness, and his words flowed without any extraordinary effort. If he never gave any wonderful specimen of eloquence, he certainly never mortified his friends by a failure in debate, so often the misfortune amongst those who sometimes reach the sublime. He was not unfrequently, in the course of a week, called to make speeches before several different bodies of men, on various subjects, political, commercial, financial, philanthropic or religious; and at all times, he was listened to with profound attention and pleasure; and probably, no cotemporary of any standing, in a moment of rivalry, could say to him, "*my advice is as often followed as yours—and the influence you have, I have also.*"

In politics he was fixed, but not stern; wary, but not suspicious; courteous in manner, but unyielding in principle—his independence never approximated to rudeness, nor could his condescension be mistaken for fear. His political friends and opposers knew where to find him, and the former never feared that he would trim for popularity, nor the latter ever led to suspect that he might be seduced by flattery or the promise of rewards. Of course he was loved by many, and respected by those who could not ask to share his affections. His extensive popularity, which lasted through more than twenty years, reflects as much honor on his constituents as on himself—it proves that public opinion has a regard to virtues as well as talents, for there were men of equal or superior abilities around him, who, during this period, felt all the fluctuations of public caprice. The people are as quick to fathom the heart, as the head of a public man; and they prize the virtues of the former, as well as the powers of the latter.*

Mr. Phillips was often solicited to take upon himself the responsibility of executor, administrator or trustee, of widows' and orphans' property—the opinion of a dying parent is always sincere, and often speaks volumes of confidence in a single line. Sometimes he was prevailed on to assume these offices, and not unfrequently extended the duties of guardian into the care of a parent; and so carefully managed his stewardship, that when called to give up his five talents, they were found to be ten. His gifts and charities were to the full extent of his means, which were very considerable; when he had no more to bestow, he set about awakening a spirit of liberality in his more opulent friends, to consider the cause, and was by them, from the force of his character, without arrangement or stipulation, virtually made the almoner of their munificence. They trusted his heart and judgment, for they knew he had no little or romantic views, but reasoned as he should do from the nature of the case.

He was not less valuable in private than public life, as a son, a husband, and a father. In the first relation, as a son, he had an opportunity of showing his gratitude almost from his cradle to his grave, for his excellent mother died but a few months before him, and he knew and felt how much she enjoyed his success, and how thankful she was to Heaven for giving her such a son There is a double charm in prosperity and distinction, when the light of life and prosperity can be thrown back on those from whom we are descended, as well as forward upon our descendants. He was a good husband and kind father, and loved his fireside(*b*)—an uncommon case for a public man—more than the noise of the committia, or the animating contentions of the forum. He who worships with high admiration and sincere devotion, the Jupiter of the capital, is seldom very true to the house-

* In the autumn of 1814, when the celebrated convention at Hartford was proposed, Mr. Phillips was President of the Senate of Massachusetts; it was resolved by the legislature of that commonwealth that a circular letter explaining the objects of that Convention, signed by the President of the Senate and Speaker of the House of Representatives should be sent to the executives of each of the New-England States. A form of a circular was drawn and brought to Mr. Phillips for his signature, which stated the "general objects of the proposed conference to be, first, to deliberate upon the dangers to which the Eastern section of the Union is exposed by the course of the war, and which there is too much reason to believe will thicken round them in its progress, and to devise, if practicable, means of security and defence, which may be consistent with the preservation of their resources from total ruin and adapted to their local situation, mutual relations and habits." He stated, that he should not sign this circular unless the words "and not repugnant to their obligations as members of the Union," were added and this last phrase was accordingly introduced into the circular.

hold gods. The constant incense offered the former, takes away the taste for the unleavened cakes familiarly given the latter. It was not so with him—duty did not keep him so much abroad, nor ambition so entirely confine him to the study, as to exclude his wife and children from the cares, caresses, and instructions of the father of his family. If history has not much to do with these amiable traits of character, memory cherishes them until herself be dead. Death came suddenly upon him, but did not find him unprepared, for he led a religious as well as a moral life. He made no canting parade of piety, but his faith was steadfast, deep and lively; and from the death of his mother, there was more than a commonly serious train of thought in his letters and conversation. As a professor of religion, he was always attentive to the duties of a Christian; but there are often moments before our dissolution, in which there is a solemn concentration of feeling and thinking, the cause of which no reasoning can explain, and no seer has ever yet disclosed. Indeed, it is not singular that the last impressions of a man should be religious, who learned to pray as he learned his alphabet, in his mother's arms, and at school was as careful to commit his biblical lesson as to retain his classical exercise.

Without going back to an early period of our history, we find two classes of men to whom we owe much—the first, those who commenced and fought out the revolutionary struggle, and those who came in afterwards, to build up our admirable forms of government, and rear our free institutions, by their opinions, their pens, and their exemplary conduct. Of the latter class was the subject of this memoir. He came into public notice when every thing relating to our common country was on trial, and other nations were watching the result of the experiment. He who successfully combatted an error, or advanced a sound argument in favor of the true course of things, deserves as much as he who wielded a sword to drive an enemy from our shores, and held it drawn to prevent his return. To do justice to the many must be the great task of the historian, but to record an individual's share is proper, for it fairly makes an item in the computation of character.

He died on the 29th of May, 1823, in the fifty-third year of his age, of a disease of the heart. He had attended in his place in the senate the day before, and assisted, a senior member, in the arrangement of that body, and after the organization, went to church to hear the election sermon and other religious exercises. In the course of the following night he was so unwell as to require the attendance of a physician, and in the morning, he, for a short time, appeared relieved, but about nine o'clock the spasms returned, and he breathed his last. The news of his death cast a gloom over the city. The senate, on the annunciation of the melancholy tidings passed resolves declaring their deep regret for the loss the community had sustained, and their high veneration for his character.(c) The city council noticed his demise with the deepest emotions of grief, and profound respect for his memory; and every public office in the city was a place of lamentation for his death—so sudden, so premature, and at such a moment of usefulness. The funeral honors of a public man are as transitory as the report of the minute guns required on the occasion; but when the public shed a tear at the good man's departure, it drops on the page of history, for the eye of posterity, and they dwell upon it more than on the loftiest eulogium of interested friends, made ever so charmingly. The clamorous notes of fame, breathed over the conqueror's bier, have no music in them to a distant age, unless some high moral excellence marked his course. It is virtue alone which is indestructible.

NOTES.

(a) "*Mr. Chairman and Gentlemen of the Board of Selectmen:*

The members of the city council acknowledge their obligations to you, for the attention and care which you have bestowed in all the arrangements made for their accommodation. They tender their thanks for the friendly and respectful sentiments expressed in the address

which accompanied the delivery of the ancient act of incorporation of the town, and the recent charter of the city.

During the short period which has elapsed since I was elected to the office, the duties of which I have now solemnly undertaken to discharge, to the best of my ability, I have devoted such portion of time as I could command, to examine the records of your proceedings, with the able assistance which your chairman most readily afforded me, and they furnish full evidence of the ability, diligence and integrity of those who have been justly denominated the Fathers of the Town.

Gentlemen—You will now be relieved from labors, the weight of which can only be duly estimated by those excellent citizens who preceded you in office. You retire with the consciousness of important duties faithfully and honorably discharged. Our best wishes attend you. Whether engaged in public employments or private pursuits, may you be useful and prosperous, and long continue your exertions to advance the interest and honor of our city.

Gentlemen of the City Council:

The experience of nearly two centuries has borne ample testimony to the wisdom of those institutions which our ancestors established for the management of their municipal concerns. Most of the towns in this commonwealth may probably continue to enjoy the benefits of those salutary regulations for an unlimited series of years. But the great increase of population in the town of Boston, has made it necessary for the legislature frequently to enact statutes of local operation, to enable the inhabitants successfully to conduct their affair; and at the last session, with a promptness which claims our gratitude, upon the application of the town, granted the charter which invests it with the powers and immunities of a city. Those who have attended to the inconveniences under which we have labored, will not attribute this application to an eager thirst for novelty, or restless desire of innovation. The most intelligent and experienced of our citizens have, for a long period, meditated a change, and exerted their influence to effect it. Difference of opinion must be expected, and mutual concessions made in all cases, where the interest of a large community is to be accommodated. The precise form in which this charter is presented, may not be acceptable to all, but its provisions have met the approbation of a large majority and it will receive the support of every good citizen.

Those who encourage hopes that can never be realized, and those who indulge unreasonable apprehensions, because this instrument is not framed agreeably to their wishes, will be benefited by reflecting how much more our social happiness depends upon other causes, than the provisions of a charter. Purity of manners, general diffusion of knowledge, and strict attention to the education of the young—above all, a firm practical belief of that divine revelation, which has affixed the penalty of unceasing anguish to vice, and promised to virtue rewards of interminable duration, will counteract the evils of any form of government. While the love of order, benevolent affection, and christian piety, distinguish, as they have done, the inhabitants of this city, they may enjoy the highest blessings under a charter with so few imperfections, as that which the wisdom of our legislature has sanctioned.

To enter upon the administration of this government, by the invitation of our fellow citizens, we are this day assembled. When I look around and observe gentlemen of the highest standing, and most active employments, devoting their talents and experience to assist in the commencement of this arduous business, in common with my fellow citizens, I appreciate most highly their elevated and patriotic motives. I well know, gentlemen, the great sacrifice of time, of ease, and of emolument, which you make, in assuming this burden. It shall be my constant study to lighten it by every means in my power. In my official intercourse, I shall not encumber you with unnecessary forms, or encroach upon your time by prolix dissertations. In all the communications which the charter requires me to make, conciseness and brevity will be carefully studied.

I will detain you no longer from the discharge of the important duties which now devolve upon you, than to invite you to unite in beseeching the Father of Lights, without whose blessing all exertion is fruitless, and whose grace alone can give efficacy to the councils of human wisdom, to enlighten and guide our deliberations with the influence of His holy spirit, and then we cannot fail to promote the best interests of our fellow citizens."

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(*b*) *Mr. Phillips to his Son, about fifteen years of age, then absent at school, on the death of his Grandmother.*

"BOSTON, March 1st, 1823.

MY DEAR SON—Your honored grandmother was, on Thursday morning, about half past 9 o'clock, released from a world of trial and discipline, and, as we humbly trust, through the merits of her Redeemer, received to the enjoyment of that happiness, which God has graciously promised to the faithful followers of our Lord Jesus Christ. She, my dear son, had lived a long and very exemplary life; but the near approach of that period, when she must appear in the presence of her Maker and her Judge, filled her mind with awe and dread. She urged upon us all, and frequently, the indispensable importance of preparing for the great change of worlds. Now, my dear son, you have not received the benefit, which, I trust, the actual view of your expiring grand parent would have produced, yet you may recollect all the admonitions and advice she has given you. She daily carried you in the arms of faith and prayer to the Throne of Grace. This she no more does in this world. Pray, therefore, daily to God, for his blessing and direction in every pursuit. Read your Bible also, every day, and frequently repeat those hymns which you have committed to memory. It gave her great comfort and support in the near view of death, to repeat such hymns as she had probably learned more than seventy years since. You may be called in a short time—if prepared, it cannot be too soon. In the mean time, Providence has directed us, while on earth, to be active and diligent in the discharge of duty.

Apply, therefore, to your studies closely, that if your life shall be prolonged, you may occupy some situation in which you may benefit society and promote your own welfare. The most important hours are now passing, both as it respects the present and the future life. Be studious, be virtuous, and God will bless you.

This is the prayer of your affectionate father, JOHN PHILLIPS."

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(*c*) "The Committee of the Senate, appointed to consider what measures it would be proper for the Senate to adopt, to testify their respect to the memory of the Hon. John Phillips, have had the subject under consideration, and respectfully report the following resolutions for the adoption of the Senate:

Whereas it has pleased Almighty God to remove, by sudden death, the Hon. John Phillips, a member of the Senate of the Commonwealth of Massachusetts; therefore

Resolved, that while the members of the Senate bow with submission to the Divine will, they feel it to be their duty publicly to express, and to place upon their records, the high sense they entertain for the *urbanity*, *integrity*, and *wisdom* of their deceased colleague; and of the great regard that is due to his memory, for long and valuable services in many public offices of great responsibility and honor, and more especially for the distinguished ability with which for a series of years, he has discharged the duties of President of the Senate of this Commonwealth.

Resolved, that the members of the Senate sincerely sympathize with the family and relatives of the deceased, in this most afflicting event: and in token of their respect, will attend his funeral.

Resolved, that the members of this board will wear crape on the left arm, during the session, as a mark of esteem for their departed friend."

The City Council of Boston passed several resolutions, expressing their sense of the public loss by the "decease of the Hon. John Phillips, late Mayor of the City, a gentleman for many years distinguished for his talents, integrity and public services."

"At a meeting of the President and Fellows of Harvard College, June, 3, 1823, it was

Voted, that this corporation receive, with deep sensibility, the notice of the sudden death of their late respected colleague, the Hon. John Phillips, and cherish a sincere and affectionate recollection of his eminent virtues, qualities and services, as a member of this board for a succession of years; that they feel a real regret in being deprived of the advantage of his talents and labors in the execution of their trust, and take this occasion of their earliest meeting after his decease, to express their condolence with his bereaved family; and that in respect to his memory, they will attend his funeral.

(Signed) JOHN T. KIRKLAND,
President."

PHILIP, Sachem of Po-ka-no-ket commonly called King of the Wampa-no-ags, began his reign in 1657, as successor to his brother Alexander, who died in a fit of rage, at the indignity offered him by being surprised by Winslow and a few men under his command, and brought before the council at Plymouth, to answer the charges of conspiring against the English. The precise age of Philip is not known, but at the death of his brother, he was a great warrior. In 1662, he went to Plymouth, and renewed his treaty with the colony. This was a master stroke of policy, for there can be but very little doubt of his intention, at that time, to break his faith as soon as plans were ripe: he made long journeys to numerous tribes of Indians, inhabiting the country from the St. Lawrence, to the Ohio. He urged them to assist him in striking one decisive blow. He caused Sausaman's death, for having given notice of a conspiracy among the Indians, to make an attack upon Plymouth. Philip was brought by force to the court, and examined, but nothing could be made out against him. Shortly after, Sausaman's death was brought home to three Indians, and they were executed at Plymouth by order of the council. One of them was a bosom friend to Philip. The indignity offered the king of the Wampanoags, now kindled up a spirit of intense revenge in his soul, and he threw off the mask, not even denying that Sausaman's death was by his order. He now whetted his tomahawk and scalpingknife, and began the work of desolation. For more than three years, he carried fire and massacre through most of the principal settlements in New-England. The pilgrims saw their danger, and they made a mighty effort for existence. They drew Philip from his country—thousands of Indians were slain, still the contest continued till August 12, 1776, when Philip was slain by an Indian, under the command of Colonel Church. This was hailed as the most auspicious event in the annals of the colonies. He was then considered as an enemy and as a merciless savage, to be dreaded for his talents, and his prowess, but now, the philosopher looks upon him as a profound statesman, and a high souled patriot, who died in the defence of his country. His death broke up all the concert of action among the different tribes, and, although the frontiers were afterward annoyed by the hostile excursions of Indians, still the annihilation of the whole was not feared. The wars of Philip have been celebrated in verse under the title of "Ya-moy-den," by Eastburn and Sands, which is a poem of singular taste and beauty.

SIR WILLIAM PHIPPS, who ranks among the first of self-educated men, that have made their way to fortune by their own exertions, was born at Pemaquid in the District of Maine, on the 2d day of February in the year 1650. He was one of 26 children, 20 of whom were sons. He had the misfortune, to lose his father when quite young, and was obliged to seek his fortune without a friend or guide. He became an apprentice to a ship carpenter, and when free set up awhile for himself. Hearing from those who came to his part of the country, that a Spanish ship had been sunk near the Bahamas, and that an immense quantity of gold was in her, his mind dwelt night and day, upon a plan for raising her, so far, as to get at the money. Until he was nearly twenty years of age, he could neither read nor write, but he felt a spirit of genius stir within him, and went to work and acquired the common rudiments of an English education, and this was done in a remarkably rapid manner. In 1683, he went to London, and laid a plan before the admiralty for raising the Spanish ship: it was adopted and the means given him to make the trial. This was done without

success, but he so clearly pointed out to the admiralty and to the king in what manner he could remedy this failure, that he was again supplied with means, and on the second attempt was successful. The sum obtained from the wreck was 300,000*l* and according to contract his share was 16,000*l*, which at that time was a princely fortune. The king conferred on him the honor of knighthood, and appointed him sheriff of New-England. He came home to Boston, but did not succeed very well in his new office. He now panted for military honor, was appointed a Colonel, and was sent to take Port Royal, which he captured, but failed in an expedition against Quebec. He now returned to England and solicited a new military appointment to go against Canada. At this time William and Mary gave Massachusetts a new charter, and Phipps came out with it as Governor and Commander in chief. He did not bear his faculties with sufficient meekness, to suit the puritans, and they preferred charges against him which amounted to nothing, but a little impetuosity and a few unguarded expressions. He repaired to England and justified himself to those who were not quite so fastidious, as his good people in the Colony of Massachusetts Bay: and just as he was about to return in triumph, he was taken sick and died in London, early in the year 1694. Phipps was no ordinary man, but his manners did not keep pace with his fortune. He was at first under the direction of the Mathers, in the sad affair of the witchcraft, at Salem, but after awhile his good common-sense broke the spell which they had cast upon him, and he aided in dissipating the delusions.

Zebulon Montgomery Pike, a name distinguished among the soldiers and travellers of our country, was born in the state of New-Jersey, on the 5th of January, 1779. His father was an officer in the American army, and distinguished for his courage and virtue. Zebulon entered his father's company when quite a boy, and on the frontiers soon earned a character of his own. While quite young, he received a commission, as his sagacity and extraordinary attention to his duties were so well known to the officers of the army. He early evinced a hardihood of character, that was to fit him for a good soldier. Without much instruction, he made himself a respectable linguist, and pursued his mathematical studies beyond his brother officers, and brought them to practical uses. He read as much as he could from the scantiness of a frontier library. Lieut. Pike was sent by the Executive of the United States, soon after the purchase of Louisiana to explore the sources of the Mississippi river. He performed his tour with great perseverance, suffered greatly, most of the time. During his tour, he was surveyor, journalist, hunter, and in fact every thing among his men, who were not of the capacity, above the common soldiers, and were but of little assistance to him. The detail of this expedition is full of interest, and should be read by his countrymen, in order to estimate the character of the man. The government was satisfied with his conduct, and he was soon made a Captain, then Major, and in 1810, a Colonel of infantry, and such was the confidence reposed in him that soon after the declaration of war in 1812, he was raised to the rank of Brigadier General. He commanded the land forces, directed against York, in Upper Canada, and showed great gallantry in landing his men, in opposition to a large force of veteran English soldiers, and hostile Indians. These were dispersed, and the enemy was beaten, but a magazine was blown up by the English, which had been prepared for the occasion: a large stone struck the General in the back which caused his death in about two hours, but he lived long enough to hear of his victory and to use the standard taken from the British as his dying pillow. General Pike was a brave, intelligent officer who had secured the confidence of his soldiers and the consideration of the government.

Wright Post, an eminent surgeon and physician, was born at North Hempstead, Long Island, on the 19th of February, 1766. Little is known of his early instruction and pursuits. He was placed, when a boy, under the tuition of the village school master, David Beatty, from whom he received the primary elements of an English education. At the age of fifteen, he became a student of medicine, under the superintendance of

Richard Bayley, at that time the most celebrated and skilful surgeon in the city of New-York. With this eminent man he prosecuted the study with great diligence and zeal. Yet, finding that his opportunities of professional attainment in the higher departments of the art might be increased by foreign travel, he repaired to London, when in his nineteenth year, and became a house pupil of the far-famed Sheldon, the eloquent teacher of anatomy and surgery. Here he learned by dissection those lessons of general anatomy which he afterwards delivered to admiring students upon his return to his native country. His skill in the practical display of his subjects by the scalpel was a means of adding much to the value of his oral communications. Having spent about two years and a half abroad during all which period he was closely engaged in anatomical pursuits and hospital practice, he returned home and in 1786 commenced the exercise of his profession in the city of New York; and in the year following delivered lectures on anatomy in the unappropriated apartments of the New York Hospital, while surgery was taught by Dr. Bayley. But owing to an imprudent exposure of an anatomical specimen by some pupils, the business of instruction was interrupted and the building itself broken into by what is well remembered as the *Doctors' Mob*. In 1790, he married the daughter of his preceptor, Dr. Bayley, who now advised him again to repair to London, in order still further to carry into successful operation his intentions as a teacher of anatomy and surgery, by procuring a suitable anatomical museum. In this interesting object he was eminently successful, as he brought out with him on his return in 1793, a collection of sound and morbid specimens, which has been pronounced the largest and rarest in this country. It was during this his second visit to Europe, that he added to his knowledge of his profession, by the instructions of Cruikshank and the late Dr. Matthew Baillie.

In 1792, Mr. Post was appointed to the department of surgery in Columbia College, while Bayley held that of anatomy; but upon his return in 1793, an exchange of professorships took place, and consequently he assumed the responsibilities of teacher of anatomy. From this time until 1813, he discharged the duties of professor of anatomy and physiology in Columbia College, with eminent success. Upon the union of the medical faculty of the college with the college of physicians and surgeons in September of the same year, he was appointed joint professor of anatomy and physiology, with Dr. Smith; and the state medical school of the regents of the university, now embracing under one head the faculties of two rival institutions presented a confederacy of names, several of which had been long conspicuous in the various departments of physical science. While anatomy was taught by professors Post and Smith, surgery received its best practical illustrations by professor Mott, the practice of physic its soundest doctrines by professor Hosack, juridical medicine was first unfolded in this country by professor Stringham, and the collateral branches of the healing art imparted by the lectures of professors Macneven, Francis, Mitchill, and others. In 1826, he resigned his several offices in the University, and confined himself to the practice of his art until a short time before his death, which took place at Throgsneck, near the city of New-York, on the 14th of June, 1828.

From this hasty outline it will be seen that Dr. Post was engaged for a period of nearly forty years, as a teacher of anatomy, and his reputation as such, has rarely been surpassed in this country. He was for thirty-five years one of the surgeons of the New-York Hospital. Upon the organization of the Literary and Philosophical Society of New-York, he was created one of its members by charter. He was also connected with other institutions of a literary and benevolent character. The surgical fame of Dr. Post will mainly rest on his distinguished and successful operation for tying the subclavian artery above clavicle on the scapular side of the scaleni muscles, for a brachial aneurism situated so high in the axilla as to make it expedient to tie this artery. He published the particulars of this case, so honorable to American surgery, in the ninth volume of the transactions of the medico-chirurgical society of London

and in the transactions of the medico-physical society of New York. Other communications by him detailing the results of some of his chirurgical operations, he printed in Hosack and Francis' American Medical and Philosophical Register, and other journals.

Such is a brief outline of the professional life of Dr. Post. A discourse on his character was delivered by his colleague, professor Mott, from which we have borrowed many of our details. "With other advantages in early life and with a more decided taste for literary acquisitions, says his eulogist, he might have shone with greater brilliancy. Dr. Post was not either from education, or from his natural or acquired habits of reflection, qualified to distinguish himself in the ranks of medical literature. Excepting a very few papers descriptive of some of his most interesting surgical cases he has left us nothing behind him as an evidence of literary talent. There is reason to believe that he was greatly averse to the exercise of writing. His introductory lectures seldom exhibited proofs of originality of thought, nor did his anatomical and physiological lectures evince any great research beyond the plain and obvious trait which duty and decency prescribed." Nevertheless, as a teacher, his lectures were characterized by judgment, accuracy and minuteness; and few have rivalled him as the expositor of anatomical science. His general learning, however, was very limited, and he was too indifferent to the improvements, which the investigations of modern physiologists and pathologists have made. Upon the decease of the venerable Samuel Bard he was appointed president of the college of physicians and surgeons, which office he held about six years, until his resignation of all collegiate duties in 1826. In his situation as president it is to be lamented that he did not manifest the nerve and decision necessary for the trying scenes which presented in the management of the anomalous government of that establishment. More engaged in the labors of his extensive practice than alive to the responsibilities of his elevated station, he seemed, in the opinions of even his best friends, too indifferent to the interests of the college, and tolerated violations of decorum and assumptions of power which in no smal. degree favored the views of a designing and selfish opposition. Hence when plans of reform were proposed whose tendency was the destruction of the institution in which he himself labored, and when even his own rights were invaded in common with those of his colleagues by the project of reducing his fees of instruction to half their accustomed and long established amount, and by proscribing the opportunities of practical anatomy by dissections, he listened with equal indifference to the projectors and the opponents of these measures: and thus the advantages derived by the student from his valuable instruction were lost to the institution by the misrule of its general government arising from the timid and lukewarm policy of its nominal head. Hence the medical school of New York, which had become, by the talents of its professors, in the number of its students, second only to that of Pennsylvania, was doomed to suffer a loss in its reputation and resources, which even the monopoly of teaching secured by legislative restrictions may not for many years regain.

Dr. Post received the honorary degree of Doctor of Medicine, by the regents of the university, in April, 1814, upon the unanimous recommendation of his colleagues.

Samuel Provoost, D. D., a Bishop of the Protestant Episcopal Church in the United States, was descended from a family originally French, whose ancestors may be traced back as far as the year 1550. The orthography of the name with the double O seems of comparatively modern date. The first of the family, of whom a particular trace can be found, was a William Provost, who resided in Paris at the time of the massacre of St. Bartholomew. The family were Huguenots. A part of them fled to Geneva, where their descendants are yet to be found in respectable stations. William escaped to Amsterdam, where he married a French lady, also a fugitive from Paris. Of this marriage there were five sons; the eldest was Johannes, who married a Dutch lady, and had by her three sons: the younger of whom came to this country, then the New

Netherlands, in 1624. He soon after returned to Amsterdam, and there married a lady by the name of Tam Waart. In 1634, this David Provoost with his wife, came back to New-York, (then New-Amsterdam) and soon after was commissioned by the Dutch Governor to command a military expedition against the English, who had made encroachments at Fresh River, (the Connecticut) on what their High Mightinesses claimed as their territory. He was successful in driving away the intruders, and built a fort at what is now called Saybrook, to which place he removed his family, and continued to command and reside in the fort a number of years. There was another brother Elias, who also came to this country and settled at Albany, then Fort Orange. From this Elias Provoost, sprang the Provoosts of that quarter. David Provoost had a number of children, and died in 1657. His third son, David, was born at Saybrook, in 1642, and in 1668, married Catharine Lawrence, who was born in Holland, in 1650. They had a number of children,—the fourth son, Samuel was born in New York, in 1687. He married Maria Bousfield, daughter of Thomas Bousfield, of Cork, Ireland. Her brother Benjamin Bousfield, was sometime sheriff of Cork, and distinguished himself as an earnest political writer. Samuel Provoost had many children. His son John was born in New York, in 1713, and became so wealthy as to be able to give his son Samuel, afterwards the Bishop, a collegiate education in England.

John Provoost married Eve Rutgers, by whom he had several children, the eldest of whom, the above mentioned Samuel, was born in the city of New York, on the 26th of February, 1742. It is mentioned that this child was christened in the Dutch church. It seems that the family, from the beginning, belonged to that sect. When Mr. Provoost joined the Episcopalians, does not appear. It is probable that his education in an English University had its influence in this respect. It would appear that upon his receiving the rudiments of ordinary classical instruction, he first entered King's (now Columbia) college, at a very early age, and that he there made great proficiency and graduated A. B. He repaired to Europe previously to his arriving at his 19th year. When he was admitted to deacon's orders, he was styled S. P. A. B. of St. Peter's college, Cambridge. In 1761, he left New York, arrived at Falmouth in September, and in November, he entered fellow commoner of St. Peter's college, England. It is reported that while he partook of the gaiety which was then the fashion of the English Universities, he prosecuted his studies with great assiduity. His father allowed him a private tutor who was the celebrated Dr. John Jebb, a man of distinguished talents, with whom Mr. Provoost, formed an ardent friendship, and was in correspondence so long as Dr. Jebb lived. Soon after the commencement of his studies at Cambridge he seems to have decided on the church as his profession, and it is evident from the letters between him and his father that this was his own unbiassed choice. Mr. Provoost acquired a knowledge not only of the Latin, Greek and Hebrew languages, but he made himself master of the French and Italian. In a letter to his father dated 13th April, 1765, he says, "I can get my degree and commendamus here whenever I please: nothing but my being too young in orders could prevent my returning home next summer."

On the 23d of February, 1766, Samuel Provoost, A. B., of St. Peter's College in Cambridge, was admitted into the order of deacon at the Chapel Royal of St. James Place, Westminster, by the Bishop of London, and on the 25th of March following, to priest's orders, at the King's Chapel, in White Hall, by Dr. Edmond Keen, bishop of Chester.

Benjamin Bousfield was a fellow student of Mr. Provoost's, at the University of Cambridge. They were intimate friends. Mr. Bousfield was the only son of Thomas Bousfield, a man of large estate, and then the only banker of the city of Cork, Ireland. The son was afterwards a conspicuous character in the Irish House of Commons, and sheriff of the county of Cork, during the great political contentions of that country. He was so far a literary man, that he ventured to enter the field with the great Edmund Burke, and wrote a pamphlet in answer to

Mr. Burke's celebrated book on the French revolution.

At about the period last mentioned the widowed mother of Mr. Bousfield and her daughter Maria, paid a visit to Cambridge. The acquaintance between Mr. Provoost, and the sister of his friend, soon ripened into a mutual attachment, and on the 8th June, 1766, they were married in St. Mary's Church, Cambridge, by one of the senior fellows of Trinity College.

Perhaps Mr. Provoost was induced to take this step the sooner, by the prospect which was then held out to him of an immediate and elegible settlement in his own country. The Episcopalians were then building a new church, (probably St. Paul's,) and he was informed by his correspondents that there was an intention to offer him the pastoral charge of it.

Soon after his marriage he returned to New-York, with his bride, and in December, 1766, he accepted a call to be one of the assistant ministers of Trinity church, for a salary of 250 pounds a year.

In 1768, he was prevailed on by his wife, to pay a visit with her to her relations in Ireland. He seems to have had the permission of the vestry, to absent himself for this purpose, under an understanding, on his part, at least, that when he returned he should resume his station in the church, on the same terms as when he went to Ireland. But the vestry appear to have thought themselves at liberty to make his continuance in his office depend on conditions which they thought proper to propose.

Soon after his return, it was proposed in the vestry, (Oct. 26, 1769) to dismiss Mr. Provoost, on account of the insufficiency of the corporate funds to support him. This proposition was not adopted. But on the 6th of the next month it was resolved that he should be continued as an assistant minister, if he would be content, instead of a salary, to receive such compensation as could be raised by subscription.

While this matter was pending, Mr. Provoost remonstrated against what he considered as the bad faith of the attempt to place him on any other footing in the church than that on which he stood when he left it, with the consent of the vestry, to make his visit to Ireland. How he treated the offer of the vestry, that he should be supported by subscription, does not appear. It is very certain, however, that it was not accepted, and that at about this time his connection with Trinity Church was dissolved.

But it is probable that the insufficiency of funds was not so much the cause of the proceedings of the vestry, as a discontent with Mr. Provoost. For it is evident that some part of his congregation were dissatisfied with him. He was not sufficiently high church to please them —of this he was not unconscious. In a letter, written soon after his return from Ireland, to his Cambridge tutor, Dr. Jebb, he says, "I am now returned to my native country—we have a fine son and daughter, and I should think my situation perfectly agreeable if it were not for the bigotry and enthusiasm that generally prevails among people here of all denominations. Even the church—particularly the lower member of it, are not free from the general infection. As I found this to be the case, I made it a point to preach the plain doctrines of morality in the manner I found them enforced by the most eminent divines of the church of England. This brought an accusation against me by these people that I was endeavoring to sap the foundation of christianity, which they imagined to consist in the doctrines of absolute predestination and reprobation—placing such an unbounded confidence in the merits of Christ, as to think their own endeavors quite unnecessary, and not in the least available to salvation, and consigning to everlasting destruction all who happen to differ from them in the most trivial matters. I was however happy enough to be supported by many of the principal people of New York."

There were many too of the disciples of the school of election and eternal damnation, who called upon him by anonymous letters to preach their doctrine, and reprobated his sermons because they were too moral. No doubt these saints would have been better pleased if he had preached what neither he or they could understand.

Another complaint against him was, that he was too restrained in his

visits to the members of his church—not that he was not generous to the poor, and kind to the sick, —or that he did not discharge all the duties of a Christian pastor; but he would not, indeed he could not, court popularity.

It is extremely probable also that the discontent of the vestry and the congregation with Mr. Provoost grew out of the political questions which then agitated the country and bred discord in every society. Though the church and state were not united in the colony of New York exactly as it was, and is, in England, yet the church was very dependent on the king and his government, and it cannot be denied that the Episcopalians of the city of New York very generally took part with the mother country. It is believed that the members of the vestry who passed the resolution which obliged Mr. Provoost to leave the church, with the exception of two or three, were tories—Mr. Provoost was entirely on the side of those who were opposed to the British Government, and took no pains to conceal his sentiments. He avows them very explicitly, in the abovementioned letter to Dr. Jebb.

Soon after he left Trinity Church he determined to seek in the country that quiet which the perturbed state of the city did not permit. He purchased a small farm at East Camp, which was then in Dutchess county. In the selection of this spot, he was no doubt, in some measure, influenced by its being in the neighborhood of the Livingston families. Mr. Walter and Robert Cambridge Livingston had been fellow students with nim at the English University.

In the earlier part of 1770, or beginning of 1771, Mr. Provoost removed with his family to East Camp. From this time till the close of the revolutionary war, Mr. Provoost, seems to have lived in perfect retirement, occupying himself with literary pursuits, for which he had a great taste. His polincal sentiments however, were so well known and his character and abilities were so much respected that his name was put by the leading politicians of the day, at the head of a list of persons who were to be delegates to the provincial congress. But he declined accepting this office.

When the convention which formed the first constitution of the state of New-York met at Kingston, in 1777, they elected Mr. Provoost their chaplain, but he refused to accept the appointment and gave the following reasons to one of his friends for his doing so. "In the beginning of the present war, when each province was endeavoring to unite the more effectually to oppose the tyranny of the British court, I remarked with great concern that all the church clergy in these northern states, who received salaries from the society, or emoluments from England, were unanimous in opposing the salutary measures of a vast majority of their countrymen—so great a harmony among people in their particular circumstances pretty clearly convinced me that some at least, were biassed by interested motives. As I entertained political opinions diametrically opposed to those of my brethren, I was apprehensive that a profession of these opinions might be imputed to mercenary views, and an ungenerous desire of rising on their ruin. To obviate any suspicions of this kind, I formed a resolution never to accept of any preferment during the present contest; though as a private person, I have been, and shall always be ready to encounter any danger that may be incurred in the defence of our invaluable rights and liberties."

Governed by this determination he refused an offer which was made him in 1777, to be Rector of St. Michael's Church in Charleston, S. C., with a very handsome salary, and an other call which he received in 1782, to take the pastoral charge of a church called the King's Chapel, in Boston. In his answer to these calls he reiterated as reasons for his not accepting them, the same which he had given when he declined the offer of the chaplaincy, to the convention.

The merit of Mr. Provoost's adherence to this resolution will be the more appreciated when his circumstances at the time, are considered. The situation in which he was placed, by the revolution, he describes thus: "I have no salary, or income, of any kind. The estate which formerly supported me, having been in the hands of the enemy ever since they took possession of New-York. The place in which I live is so far from

maintaining my family, that I am now in debt for the greatest part of the wheat they have consumed since the beginning of the war. Besides selling part of my furniture, &c. and running in debt for various necessaries, I have from time to time, borrowed money of my friends to considerable amount. My mother and family are refugees from the city, and nearly in the same situation with myself—and I am prevented by the constitution of the state and the canons of the church, from entering into any secular employment."

A curious anecdote of Bishop Provoost, belongs to this period. When the British fleet ascended the Hudson River, at the time that they burnt Esopus, after they had set fire to Judge Livingston's house, which was but a little way below Mr. Provoost's farm, a detachment of soldiers from the fleet was observed approaching the shore, not far from Mr. Provoost's dwelling. Mr. Provoost and a number of his neighbors armed themselves, with a hope that they might defend their property. The soldiers were seen to land, and leave their boat in charge of a guard of two or three men. It was immediately proposed by the armed citizens to surprize the guard and destroy the boat, which would insure, with the force that could be raised in the country, the capture of the whole detachment. With this design, Mr. Provoost and his party crept along the river, concealed by the rocks and bushes, till they had got so near the boat as to be on the point of executing their design; when to their great disappointment, the soldiers, who had left the shore, met with something which hastened their return, and the reverend gentleman and his associates, were glad to keep themselves hid, not without fears that they would be discovered. If this had happened they certainly would have been the captured, instead of the captors,—and very probably, he would not have been very easily exchanged—as the British officers might have chosen to exhibit in England, a rebel fighting-parson as a curiosity.

But after the termination of the revolutionary war, Mr. Provoost's prospects very soon changed—a few days before the British troops finally evacuated the city of New York, the persons who then claimed to be the vestry of Trinity Church, elected a rector in the place of Dr. Inglis, who had left the country. This when the Americans took possession of the city, excited great discontent among the members of the church who had been driven from their houses during the war, and who disputed the validity of any election of vestrymen, made while the city was in possession of the enemy. The whig members of the church refused to attend public worship, and the excitement against the proceedings of the vestry and the new rector, was so great that there was a design to take the property of the church from them by force. To prevent this, some of the more temperate Episcopalians, who were whigs called a meeting of the members of the church, with a view to adopt such a course as might prevent violence. This meeting appointed a committee to confer with the vestry, and to endeavor to induce them to adopt such measures as might produce an amicable arrangement. It was proposed to the vestry by the committee, that the new rector should resign, and that a whig should be chosen in his place. After a deliberation of some days, the vestry refused to accede to this proposition. The committee then applied to the council which declared that the vestry was not legally constituted, and that their appointment of a rector was, of course, void. The council vested the temporalities of the church in nine trustees, who on the 13th January, 1784, took possession of the church. Soon after a general meeting of the members of the church was called, at which meeting Mr. Provoost was unanimously elected Rector of Trinity Church. A deputation was sent to him to request that he would accept the office. To this he consented. He shortly removed to the city with his family and was forthwith inducted.

This change must have been agreeable to Mr. Provoost on many accounts: among others, it could not have been the least satisfactory, that it restored him to his property.

No sooner had the country established its political independence, than the members of the church thought not only of freeing it als

from all foreign ecclesiastical jurisdiction, but of establishing for it, as far as circumstances would permit, a republican government: that is, an elective and representative government, in the true formation of which the members of the church seem also to have had in mind as a model, the federative constitution of the country. The state conventions would be in the place of the state legislatures, and the general convention would be the church congress.

The first decisive movement towards the organization of this government, was a meeting of clergymen and laymen in Philadelphia, on the 24th May, 1784. They appointed a committee to confer with members of the church in other states. This committee on the 6th and 7th of October, in the same year, met in the city of New York, clergymen and lay deputies, from several parts of the union.

Mr. Provoost was one of the representatives of the clergy from New-York. This body convoked the general convention which met at Philadelphia in October, 1785, of which Mr. Provoost was, of course, a member.

In the proceedings of every assembly which contemplated the foundation of a church government the necessity of having an independent order of bishops was recognized. But great difficulties seemed to present themselves in obtaining a due consideration of persons to this holy office. The English bishops could not confer it without the candidate would take certain oaths, and could produce certain documents, entirely inconsistent with the new relations between Great Britain and the United States—besides, it was feared, that it was too soon to expect that the animosities which are always generated by civil wars, would have so far subsided as to render the mother country disposed to be indulgent to her rebellious children.

Under these circumstances an application to the Episcopacy of some of the European continental powers was contemplated. As early as the year 1784, Mr. John Adams then our ambassador at the court of St. James, applied, on the suggestion he says of an American correspondent, to the Danish minister to the same court to know whether consecration might be obtained in Denmark.—This the Danish minister sent to his court, by which it was referred to the theological faculty of Denmark, and their answer was communicated by Count Rosencrone, prior counsellor of the King of Denmark, to his minister Mr. de St. Saphorin, and by him to Mr. Adams, in a letter dated April 21, 1784.—Count Rosencrone's letter to Mr. de St. Saporin is as follows "The opinion of the Theological faculty having been taken in the question made to your excellency by Mr. Adams, if the American ministers of the church of England can be consecrated here by bishops of the Danish church— I am ordered by the King to authorize you to answer, that such an act can take place according to the Danish rules.—But for the convenience of the Americans, who are supposed not to know the Danish language, the Latin tongue will be made use of on the occasion. For the rest, nothing will be exacted from the candidates, but a profession conformable to the articles of the English church, omitting the oath called *test*, which prevents their being ordained by the English Bishops."

This answer was transmitted by Mr. Adams to the United States office of foreign affairs, and by the Secretary of state to Gov. George Clinton, and by him it was sent to Mr. Provoost.

But the friends of the church in the United States were not satisfied to accept this offer of the Danish Government any more than they were content with some kind of consecration which it had been found could be obtained in Scotland. They therefore exerted themselves with success, to obtain an act of the British parliament, authorizing the archbishop of Canterbury, or York, to consecrate foreign Bishops, and removing the objections which persons not in allegiance to the King of Great Britian, must have had, to the English forms.

In their efforts in this respect the friends of the church seem to have been very fortunate in obtaining the co-operation of the high officers of the government of the United States, who appear to have taken more interest in the subject than perhaps, in these times of jealousy of a connec-

tion between church and state, our political functionaries would now dare to manifest.

While these things were depending probably with an expectation that Mr. Provoost would be one, if candidates were sent to England for consecration, and perhaps, with a design that he should not appear abroad without having received all the marks of respect and honor his own country could bestow, the University of Pennsylvania on the 3d July, 1786, conferred on him the degree of doctor of theology, in virtue of which, it is presumed, he is in his letters of consecration recognized by the bishops of England, as being a doctor of divinity.

Mr. Provoost having obtained the necessary recommendations and testimonials from the several state conventions for his consecration as bishop of the diocese of New York, he, with the Rev. William White of Pennsylvania who had the like documents as to that state, sailed from New-York for England on the 10th day of October, 1786 and on the 4th day of February, 1787 they were consecrated by Dr. John Moore, archbishop of Canterbury in the chapel of Lambeth Palace.

Bishop Provoost used to state among his particular friends that when the ceremony of consecration was about to be performed a question arose as to which of the candidates was entitled to precedence and it having been ascertained that Mr. Provoost, though the younger man, was the older clergyman, he was first consecrated and thus became the first duly consecrated American bishop. This circumstance is mentioned because it may be thought of some importance as respects the history of the church.

In the recommendations of Mr. Provoost for consecration by the state conventions he is described as being chaplain to congress. Evidence exists of his having been appointed to that office several times as well under the old confederation, as the present constitution, and it is supposed he always filled it, when congress sat in the city of New-York.

Soon after their consecration Bishop Provoost, and Bishop White, sailed from England, and after a very tedious and boisterous passage, during which Bishop Provoost was so ill that it was feared he would not live, they arrived in New York on Easter Sunday, 1787.

Mr. Provoost had every reason to be satisfied with his reception on his return. He was cordially greeted not only by the members of his own church, but by citizens of all denominations, and the state convention which was in session two days after his arrival, offered him their congratulations in an address which could not have been but very acceptable to his feelings. In this the convention was followed not only by congregations in his own diocese, but by many, in other states.

Bishop Provoost continued to exercise the Episcopal office, and to be Rector of Trinity Church, until the 3d September, 1801, when he unexpectedly, as it would appear to the members of the state convention which was then in session in this city and over which he presided till the moment he made his resignation verbally, from the presidential chair and left the convention. His resignation was immediately accepted by a resolution more full of piety, and prayers, that it was expressive of kind feelings, or satisfaction.

On the 7th of the same month, he addressed a letter to Bishop White as President of the house of Bishops, to be presented to a general convention which was to be held at Trenton next day. In this letter he requested the presiding Bishop to inform the convention that "induced by ill health and some melancholy occurrences in his family, and an ardent wish to retire from all public employment, he had resigned at the then late meeting of the church convention of this state, his jurisdiction as Bishop of the Protestant Episcopal Church in the state of New-York."

When this letter was considered by the house of Bishops they resolved among other things, that they judged it to be "inconsistent with the sacred trust committed to them to recognize the bishop's act as an effectual resignation of his episcopal jurisdiction, and though the bishops were, as they say, in the same resolution, ready to consecrate a person to render him competent in point of character, to all the episcopal duties; "this house," they say, "must be understood to be explicit in this de-

claration that they shall consider such person as assistant, or coadjutor Bishop during Bishop Provoost's life.

It does not appear that any notice of this proceeding was ever officially communicated to Bishop Provoost. There is no resolution of the house of Bishops that he should be made acquainted with it.

The melancholy occurrences in his family to which the Bishop refers in his letter to the house of Bishops, were the loss of his wife, who died after a long illness, in August, 1799. In July following, he lost his youngest and favorite son, by a very distressing death, and was made very unhappy by the conduct of his only surviving son.

The truth is that Bishop Provoost's ardent wish to retire from all public employment, was in part at least, induced by his finding his situation in the church, in the latter years of his ministration, less agreeable than it had been. There were the most unfortunate dissensions among the clergy of his diocese, and particularly among those of the city of New York, and besides, power in the vestry of Trinity Church very soon reverted to those who had been opposed to the revolution, and as was very natural, they preferred their brethren in political principles, to one whose sentiments had been, and probably were, so opposite to theirs. This not only related to the past—but, unfortunately for Mr. Provoost's peace, he, and a great majority of the vestry, and most of the Episcopalians in the city, had different sentiments, on the questions which from time to time, while he was connected with the church, excited the warmest animosity between the political parties of our country. The feelings which such circumstances very naturally engender, seem on the part of those who differed with him in politics, to have survived him—otherwise we should not look in vain among the monuments with which Trinity Church is so lavishly decorated, for some mark of respect to one who was so long its pastor. Nor would the grave of the first American Bishop remain undistinguished even by a head-stone.

In October, 1812, Bishop Provoost addressed a letter to the state convention which was in session in the city of New York, declaring that he had but lately became acquainted with the proceedings of the house of Bishops on his offer to resign—that he was ready to act in deference to their resolution, and to concur in any regulations which expediency might dictate to the church; without which concurrence, he was, as he said, after the resolution of the house of Bishops, bound to consider every episcopal act as unauthorised.

This resumption by Bishop Provoost of his spiritual jurisdiction proceeded from no diminution of his desire for retirement, nor from any other wish to exercise the power of the prelacy than that he might be enabled to interpose to arrest proceedings of the vestry of Trinity Church and state convention which he disapproved, against the Rev. Mr. Jones, who was an assistant minister of the church and an old and particular friend of Bishop Provoost.

It cannot be necessary at this time to notice further these proceedings or the measures consequent upon them, which for a long time distracted the church.

That he might entirely indulge his disposition to be without public employment, he retired from the rectorship, under an agreement with the vestry that they would make him a certain allowance a year during his life.

He was now advanced in years, and suffered occasional attacks of an apoplectic character. He died very suddenly of one of these fits, on the 6th day of September, 1815. A funeral service was performed in Trinity Church. The psalms and hymns were read by the Rev. Dr. How—a sermon was preached by the Rev. Dr. Harris—and the sentences at the interment were read by the Rev. Mr. Jones.

His remains were deposited in a vault belonging to the family in Trinity church yard.

His funeral was numerously and respectably attended, but his family were compelled to pay the expense down to a pound of candles for lighting the church.—Bishop Provoost left two daughters and one son, all of whom are married and living.

There is a period in the concerns

of the Church in this state which might be very much amplified—At the conclusion of the revolutionary war, there was a design to take the property of Trinity Church for the State. Very severe movements were made in the Legislature for this purpose, and it was only prevented by the active interposition of Mr. Provoost and his political friends, the Livingstons and particularly the late Chancellor, Mr. Duane, then Mayor of the city, Colonel Willett, and the then Governor, George Clinton, who though not an Episcopalian opposed himself to this measure.

We have thus given the prominent circumstances of the life of Bishop Provoost with as much brevity as the nature of our materials allowed. He is identified with the history of Episcopacy in the United States and it was due to his neglected memory to dwell somewhat in relation to the agency he maintained in the origin of the church. It remains to add but a few words: the character of Bishop Provoost is one which the enlightened Christian will estimate at no ordinary standard: the principles which he professed were an additional stimulus with him in the discharge of its responsible duties; the generous sympathies of his nature created in him a cordial concern in whatever affected the interests of his fellow creatures. Hence his philanthrophy was of the most extensive order and his beneficence was called into almost daily exercise. His private charities were often beyond what his actual means justified. As a patriot he was exceeded by none, and his sensibilities to the honor and interests of his country were of the liveliest nature. In the relations of husband and parent he exhibited all the kindly and endearing affections, which ennoble our species. As a scholar he was deeply versed in classical lore and in the records of ecclesiastical history and church polity: to a very entire knowledge of the Hebrew he added a profound acquaintance with the Greek, Latin, French, German, Italian and other languages. It is affirmed that as a literary recreation he made a new poetical version of Tasso. In a knowledge of the natural and physical sciences he also made considerable progress. Of these pursuits botany was his favorite. He had attended while at his Cambridge studies the lectures on this last named branch of physical investigation: and became conversant with the classifications of plants from Cœsalpinus to Linnæus, whose system was then taught by the Cambridge professor. So great was his delight in botanical pursuits that he formed an extensive index to the elaborate *Historia Plantarum* of John Baushin whom he calls the Prince of Botanists, in a a written leaf affixed to the first volume of the work, and which manuscript bears date 1766 with his name Sam. Provoost, D. D. St. Petr. Cantab. et Lugd. Bativ. Of his ample library an appropriate portion was given by his son-in-law Hon. C. D. Colden, to the New York Hospital and a part to the New York Historical Society Library. For a further account of his life and services in the church, see Bishop White's Memoirs of the Protestant Episcopal Church in the United States of America.

William Penn, an illustrious person among the Quakers, and founder of the colony of Pennsylvania in North America, was the son of Sir William Penn, knight, admiral of England, and one of the commanders at the taking of Jamaica. To give some little account of Sir William, before we proceed to his son: we find from his epitaph in Redcliffe Church in Bristol, that he was born at Bristol in 1621, of an ancient family; addicted from his youth to maritime affairs; made a captain at the age of twenty-one; rear-admiral of Ireland at twenty-three; vice admiral of Ireland at twenty-five; admiral to the Straits at twenty-nine; vice-admiral of England at thirty-one; and general in the first Dutch war at thirty-two. Whence returning in 1655, he was made a parliament-man for the town of Weymouth; in 1660, commissioner of the admiralty and navy, governor of the fort and town of Kinsale, vice-admiral of Munster, and a member of that provincial council; in 1664, chief commander under the duke of York, in that signal and successful fight with the Dutch fleet. Then he took leave of the sea, but continued still his other employs till 1669; when through bodily infirmities he withdrew to Wanstead in Essex, and there died in 1670. In Thurloe's State

papers, there are minutes of his proceedings in America, not mentioned on his monument, which he delivered to Oliver Cromwell's council in Sept. 1655. He arrived at Portsmouth in August, and thence wrote to Cromwell, who returned him no answer: and, upon his first appearing before the council, he was committed to the Tower, for leaving his command without leave, to the hazard of the army; but soon after discharged.

His son William, the subject of the present article, was born in the parish of St. Catherine near the Tower of London, Oct. 14, 1644, and educated at the school of Chigwell in Essex; "where, at eleven years of age," says Mr. Wood, "being retired in a chamber alone, he was so suddenly surprised with an inward comfort, and (as he thought) an external glory in the room, that he has said many times, how from that time he had the seal of divinity and immortality; that there was also a God, and that the soul of man was capable of enjoying his divine communications." Penn says himself, in his Travels, that "the Lord first appeared to him about the twelfth year of his age, anno 1656; and that, betwixt that and the fifteenth, the Lord visited him, and gave him divine impressions of himself." Afterwards he went to a private school on Tower-Hill, and had likewise the advantage of a domestic tutor. In 1660, he was entered a gentleman commoner of Christ Church in Oxford, where he continued two years, and delighted much in manly sport at times of recreation: but meanwhile, being influenced by the preaching of one Thomas Loe, a Quaker, he and other students withdrew from the national form of worship, and held private meetings, where they prayed and preached among themselves. This giving great offence to the governors of the university, Penn was fined for non-conformity; and, continuing still zealous in his religious exercises, was at length expelled his college.

Upon his return home, he was severely treated by his father on the same account: he says, that "he was whipped, beaten and turned out of doors by him in 1662." The father's passion however abating, he was sent to France, in company with some persons of quality, where he continued a considerable time, and returned well skilled in the French language, and with a very polite and courtly behavior. Then he was admitted of Lincoln's Inn, with a view of studying the law, and there continued till the plague broke out in 1665. In 1666 his father committed to his care a considerable estate in Ireland, which occasioned his residence in that kingdom: where, instead of frequenting the amusements of the place, he fell into a serious and retired way of living; and, by the preaching of the abovementioned Thomas Loe at Cork, was prevailed on to profess himself publicly a Quaker. Other reasons, as we learn from Wood, were then assigned for his profession; as, the loss of his mistress, a fine young lady at Dublin; or, as some said, because he refused to fight a duel; but he was doubtless rivetted in it thoroughly, before his journey to Ireland. He now attended their meetings constantly: in one of which, at Cork, Nov. 1667, he, with many others, was apprehended and imprisoned; but, upon writing a letter to the Earl of Orrery, was soon after discharged. His father, hearing of his having embraced Quakerism, sent for him to England; and, finding him too much fixed to be brought to a compliance with the fashion of the times, seemed inclinable to have borne with him in other respects, provided he would be uncovered in the presence of the king, the duke, and himself. Penn betook himself to supplication and fasting, to know the divine will and pleasure upon his head; after which, refusing to comply, he was by his father turned out of doors a second time; who yet retained so much affection for him, as secretly to endeavor his discharge, whenever he was imprisoned for frequenting the Quakers' meetings.

In 1668, he became a preacher among the Quakers; and the same year published his first piece, with this title, "Truth exalted: in a short but sure testimony against all those religions, faiths, and worships, that have been formed and followed in the darkness of apostacy; and for that glorious light, which is now risen and shines forth in the life and doctrine of the despised Quakers, as the alone good old way of life and salvation. Presented to princes, priests, and peo

ple, that they may repent, believe and obey. By William Penn, whom divine love constrains in an holy contempt to trample on Egypt's glory, not fearing the king's wrath, having beheld the majesty of Him who is invisible." The same year he was committed close prisoner to the Tower of London, where he wrote several pieces; and, being discharged after seven months imprisonment, went in 1669 to Ireland, where he preached among the Quakers, and continued to write in defence of his new religion. Returning to England, and the conventicle act prohibiting the meetings of dissenters under severe penalties, he was committed to Newgate, Aug. 1670, for preaching in Grace Church-street; but, being tried for that offence at the Old Bailey, was acquitted by the jury. September 16th, the same year, his father died; and, being perfectly reconciled to him, left him an estate of 1500*l.* per annum, in England and Ireland. About this time he held a public dispute, concerning the university of the divine light, with Ives, an anabaptist teacher, at West-Wicomb in Buckinghamshire. February, 1670-71, he was committed again to Newgate for preaching publicly, where he continued six months. After his discharge, he went to Holland and Germany, but seems not to have made any stay.

In 1672, he married the daughter of Sir William Springett, formerly of Darling, in Sussex, who had been killed during the civil wars at the siege of Bamber; and, soon after his marriage, settled with his family at Rickmersworth in Hertfordshire. He continued from time to time to publish variety of tracts, as he found it necessary to support the cause of Quakerism. In 1677, he travelled again into Holland and Germany, in order to propagate the new light; and had frequent conversations with the princess Elizabeth, daughter of the queen of Bohemia, and sister to the princess Sophia, grandmother to George II. The princess Elizabeth was a great admirer of philosophy and poetry, and wrote several letters to Penn, which he inserted in his "Travels," published in 1694, 8vo.

In 1681, Charles II. in consideration of the services of Sir William Penn, and sundry debts due to him from the crown at the time of his decease, granted Mr. Penn and his heirs by letters patent, the province lying on the west side of the river Delaware in North America, and made them absolute proprietors and governors of that country. The name too was changed, in honor of Penn, from the New-Netherlands to Pennsylvania: it having been a sylva, or country overgrown with woods. Upon this he published "A brief account of the province of Pennsylvania, 1681," folio; with the king's patent, and other papers, describing the country and its produce, proposing an easy purchase of lands, and good terms of settlement for such as were inclined to remove thither. He drew up likewise, "the fundamental constitutions of Pennsylvania," in twenty-four articles; and also, "the frame of the government of the province of Pennsylvania." Many single persons, and some families out of England and Wales, went over; and, having made and improved their plantations to good advantage, the governor, in order to secure the new planters from the native Indians, appointed commissioners to confer with them about land, and to confirm a league of peace, which they accordingly did. Aug. 1682, he embarked for Pennsylvania, acccompanied by many persons, especially Quakers; and during his abode there, took all proper measures to cause his infant colony to thrive and flourish. He planned his new town of Philadelphia in the most elegant manner. It consists of eight streets of two miles, and sixteen streets of one mile, cutting each other at right angles, with proper spaces for public buildings. Penn caused "An Account of the city of Philadelphia in the province of Pennsylvania, newly laid out, with a portraiture or platform thereof," to be printed at the end of his "Letter to the Committee of the Free Society of Traders of the province of Pennsylvania, residing in London containing a general description of the said province, its soil, air, water, &c. London, 1682." The year before, he had been elected fellow of the Royal Society.

He returned to England in 1684; and, James II. coming soon after to the throne, he was taken into a very great degree of favor with his majesty. He had indeed enjoyed the same, while that king was duke of

York; and this exposed him so strongly to the imputation of being secretly a Papist, that even Tillotson suspected him. They had a correspondence upon this head, which is printed in "Penn's Life;" the result of which was, that Tillotson owned himself "fully satisfied, that there was no just ground for the suspicion, and therefore did heartily beg his pardon for it." Notwithstanding this, throughout king James's reign, "many suspected," says Burnet, "that William Penn was a concealed Papist. It is certain he was much with Father Petre, and was particularly trusted by the earl of Sunderland. In 1686, he went over to Holland, to persuade the prince of Orange to come into king James's measures, and had two or three long audiences of him upon that subject:—but his negotiation with the prince had no effect. He was," adds Burnet, "a talking, vain man, who had been long in the king's favor. He had such an opinion of his own faculty of persuading, that he thought none could stand before it; though he was singular in that opinion; for he had a tedious, luscious way, that was not apt to overcome a man's reason, though it might tire his patience."

At the Revolution, being suspected of disaffection to the government, and looked upon as a Papist or Jesuit under the mask of a Quaker, he was examined before the privy-council, Dec. 1683; and obliged to give security for his appearance the first day of the next term, which was then continued to Easter term, on the last day of which he was discharged. In 1690, when the French fleet threatened a descent on England, he was again examined before the council, upon an accusation of corresponding with the late king James; and was held upon bail for some time, but discharged in Trinity term. He was attacked a third time the same year, and Burnet represents him as deeply involved in the plot with Lord Preston and others; insomuch that he was deprived of the privilege of appointing a governor for Pennsylvania, till, upon his vindication of himself, he was restored to his right of government. He designed now to go over a second time to Pennsylvania, and published Proposals in print for another settlement there; when a fresh accusation appeared against him, backed with the oath of one William Fuller, who was afterwards declared by the Parliament a notorious impostor, a cheat, and false accuser. A warrant was granted for Penn's apprehension, which he narrowly escaped at his return from George Fox's funeral, 16th Jan. 1690; upon which he concealed himself for two or three years, and during his recess wrote several pieces. At the end of 1693, through the interest of lord Somers and others, he was admitted to appear before the king and council, when he represented his innocence so effectually, that he was acquitted.

His wife dying in Feb. 1693-4 he married another, the daughter of a Bristol merchant, in March, 1795-6, by whom he had four sons and one daughter; and, the month after, his eldest son by his former wife died of a consumption, in his 21st year. In 1697, there being a bill depending in the House of Lords against blasphemy, he presented to the House, "A Caution requisite in the consideration of that "Bill:" in which he advised, that the word blasphemy might be so explained, as that no ambiguous interpretation might give occasion to malicious persons to prosecute, under that name, whatever they should be pleased to call so: but the bill was dropped. April, 1698, he set out from Bristol, where he then lived, for Ireland; and, the winter following, resided at Bristol. Aug. 1699, he embarked with his family for Pennsylvania; but, during his absence, some persons endeavored to undermine both his and other proprietary governments, under pretence of advancing the prerogative of the crown; and a bill for that purpose was brought into the House of Lords. His friends, the proprietors and adventurers then in England, immediately represented the hardship of their case to the Parliament; soliciting time for his return to answer for himself, and accordingly pressing him to come over as soon as possible. He, seeing it necessary to comply, summoned an assembly at Philadelphia; to whom on the 15th September, 1701, he made a speech, declaring the reasons of his leaving them; and the next day took shipping for England, where he arrived about the middle of December. After his return, the bill, which,

through the solicitations of his friends had been postponed the last session of Parliament, was wholly laid aside.

Upon the accession of queen Anne, he was in great favor with her, and often at court: and for his convenience took lodgings, first at Kensington, afterwards at Knightsbridge, where he resided till 1706; and then removed with his family to a convenient house, about a mile from Brentford. In 1707, he was involved in a law-suit with the executors of a person who had formerly been his steward; but his cause, though many thought him aggrieved, was attended with such circumstances, that the Court of Chancery did not think proper to relieve him; upon which account he was obliged to live in the Old Bailey, within the rules of the Fleet, till the matter in dispute was accommodated. Then it seems to have been, that he mortgaged the province of Pennsylvania for 6,600*l.* In 1710, the air of London not agreeing with his declining constitution, he took a seat at Rushcomb near Twyford in Buckinghamshire, where he spent the remainder of his life. In 1712, he was seized at distant times with three several fits, supposed to be apoplectic; by the last of which his understanding and memory were so impaired, as to render him incapable of public action for the future. He did not die, however, till July 30, 1718, in his 74th year, when he was buried at Jordan's in Buckinghamshire, where his former wife, and several of his family, lay.

He wrote a vast number of things. Dr. Henry More has said, that our author, in his piece, entitled, "No Cross no Crown," has treated the subject of a future life, and the immortality of the soul, with a force and spirit equal to most writers: and, in a letter to Mr. Penn, concerning baptism and the Lord's Supper, and some usages of the Quakers, he remarks, that "he had perused some of Mr. Penn's writings, and met with several excellent passages in them, that are very expressive of a vigorous resentment and experience of what appertains to life and holiness." All his works were collected together, and printed in 1726, in two volumes, folio, with an account of his life prefixed. One of the hardest adversaries he had was George Keith, once of his persuasion; who published "The Deism of William Penn and his brethren, destructive to the Christian religion, exposed and plainly laid open, 1699," 8vo.

Benjamin Pratt graduated a 1737, at Harvard University. He entered, it is said, in the junior class, and was distinguished for the extent of his acquirements, and the maturity of his judgment. He read law either with Auchmuty or Gridley, or both, and commenced business in Boston. He was soon conspicuous among the lawyers of the day in learning and eloquence. From eminence at the bar, the course to political distinction was easy and certain. For several years he was one of the representatives of Boston in the legislature, and was a constant, fearless, and independent lover of freedom, and never hesitated to support what he thought to be just, wise and expedient, without crouching to prerogative, or bending to the people. This course in times of commotion is difficult to pursue. Power of every kind is jealous, and while it affects to admire, always hates an independent spirit.

Pratt was highly esteemed by governor Pownal from the part he took in the legislature, as well as for his general character; but in attempting to make suitable arrangements for the governor's departure from the Province he gave offence to the people, and the next year they left him out of the list of representatives. The office-seeker and the demagogue may think this fact against him—far from it. The affections of the people, are transient and vacillating, and easily offended—or at least they were so in his time, for it was just as the political ferment began. Armed with the consciousness of his integrity, this neglect did not disturb him. He sincerely loved New England but it was not his destiny to reach his highest honors here, or die in the land of his nativity, for when Pownal returned home he remembered Pratt, and he was by his recommendation appointed Chief Justice of the State of New York. The Suffolk bar with whom he had long associated and by whom he was highly respected, sent him a valedictory address, which affectionately spoke of

his worth, and regretted his departure. His answer was a classical composition, full of feeling and dignity.

Many of the people of Boston thought him morose, distant and haughty; but they did not fully understand him. To the few for whom he felt a high respect for their worth and intelligence, he was communicative and courteous. His talents were never questioned by any. It is not improbable that his early misfortune, the loss of a limb, gave a sober cast to his character. In every man there is more or less of personal vanity, which occupies a portion of our youthful days; but "he who is curtailed of his fair proportions" and has no opportunity of exhibiting his beauty, grace, strength, and personal accomplishments by the military plume, the sprightly dance, or by fencing, riding, or such feats, becomes early concentrated, thoughtful and solemn, and grows mature, while others are in the green leaf of pleasure or dissipation. If such misfortunes befall a feeble-minded youth, his disposition generally turns peevish or morose, and he quarrels with all around him; but one made on a higher scale, cut off from the common amusements of life, by some painful accident, becomes strong in the inner man. He learns to lean upon himself—passes from the visible to the invisible world—from creation to providence—from the gay and light things of the present moment to the weighty ones of eternity. If his mind should not receive this religious impression at first, it often pursues a course nearly allied to it—a course literary and philosophical. The character of Pratt's eloquence and of his poetry, prove that he had reasoned much upon the nature and fate of man, and upon the wisdom and design of God in making him what he is. The people finding a man in business hours like other men, can see no difference between him and others in any respect; it does not come within their ken. The good people expected of him the low bow—the honied accents of "sweet friends," but he did not turn to bow nor flatter, and they thought him crusty and proud.

Pratt must have been a man of great research and learning, for he had made such an extensive collection of rare documents, relating to the events of this country, that he contemplated writing a history of New-England; but he died too soon to accomplish it. This was deeply regretted by all who knew how well qualified he was for such a task. The fact is mentioned by Hutchinson in his preface to his History of Massachusetts Bay. The public on this account alone lost much by his death, for his style was far superior to that of any man of his time, and his habit of thinking, analyzing, and arranging his subjects, would have been of admirable use in such a work. His models were classical, and his manner free from the staidness then prevalent among American historians.

It was generally understood, that when he was young, he published no small number of occasional pieces in the newspapers and magazines; but these must have all been anonymous. His short Canto on Death is not deficient in poetry—it has some obscurities, and some harsh lines, but it abounds in deep thought, and proves that he had taste and fancy—many of the figures are beautiful, and every part of it is strongly marked with a deep and sentimental philosophy, which passes from things seen to things unseen and eternal—from earth to heaven—from man to God.

The good and learned Doctor Eliot, in his New-England Biographical Dictionary forgot his usual gentleness in describing Pratt, and represented him as haughty and forgetful of his early friends—but a writer in the Anthology for 1810, has with great justice and candor discussed this subject and very ably defended Pratt's reputation.

Pratt's highest ambition was gratified in his matrimonial connection, for he married a most accomplished woman, the daughter of Judge Auchmuty—one who saw her husband's fair proportions in his mind—and one who turned from the fashionable and elegant suitors around her, to whom by birth, fortune, and female charms she had a full claim, to lavish her affections on him, enamored with his virtues and his intellect. They had two children, a son and a daughter; the latter married in Boston, and has left children and grand children,

who are among our most respectable inhabitants. Chief Justice Pratt had always in view, while in New-York, the period when it would be convenient for him to return to his native State, and enjoy the *otium cum dignitate*. The sons of New England are every where to be found, from the equator to the poles—there is not a sea, a mountain, a vale or river, which has not been visited by New-England enterprise; but wherever they are settled, or however prosperous they may be, they remember with delight the land of their nativity—the land of schools and churches—of plain manners and steady habits. Judge Pratt died at New-York, on the 5th of January, 1763, in the 54th year of his age, leaving his friends and contemporaries, Gridley, Otis and others, still living. Death is not charmed by eloquence, nor warded off by virtues; the monarch of worlds loves to point his dart near the throne of Omnipotence, and to send those who bear the brightest image of their Maker to mingle with kindred spirits.

Christopher Prince. The subject of this memoir, Capt. Christopher Prince was born in Boston, June 22d, 1751, and died at New-York March 15th, 1832, after spending a long life of much usefulness to his fellow men. Very little is known of the days of his childhood; we only know of his parents that they were pious and gave him a good education, and the probability is that they were of the stock of the Puritans, whose virtues will ever impart a bright lustre on the annals of New England. There is every reason to believe from his activity in public affairs in after life, that at a very tender age he became acquainted with the intestine disputes of the infant colonies, and it is fair to infer that in his juvenile years he took a deep interest in those affairs which from small beginnings, amounted at last to the final separation of this immense sovereignty from the British crown. We learn that while yet a beardless youth, at the age of thirteen, he left the home of his beloved parents, and embarked on board a ship to plough the ocean's billow.

The life of a mariner is well known to be full of perilous incidents. The youthful seaman mounts on the wave of the ocean as the young adventurer does on the sea of life, with joyful expectations and bright prospects before him, but alas! he has often to witness the storms of disappointment, and the shipwreck of his hopes. A seaman's life is exposed to more than ordinary temptations, and perhaps with him the virtue of self-denial cannot be practised without more opposition than in any other situation in life. Surrounded by men from every nation and of every character, and as it is too often the case habituated to every species of evil, his daily intercourse leads him to hear the stories of their ill-fated adventures in deeds of wickedness, and as it has been well said that evil communications corrupt good manners the young seaman is soon thrown off his guard and he becomes a prey to the tempter. Although our young mariner no doubt commenced his seafaring career a pattern of virtue, yet this virtue was not always proof against the temptations to which he was exposed; for in after years he often lamented that he had fallen into the snares incident to a seaman's life. His talents procured him a midshipman's warrant in the British navy before the revolution. But when the storm of war came on, when the speck in the horizon had increased to a mighty, to a portentous cloud, he left the British service and entered as a lieutenant in an American privateer. After the war ended he continued in the commercial business, and commanded several vessels to ports in the West-Indies, Europe, and other parts of the world. Being successful in his enterprises, in the year 1797 he left the sea and took up his residence in the city of New York, where he continued to reside to the day of his death.

While at sea his feelings and habits had undergone a great change, from a violator of the laws of his Maker he had become a devout observer of them, and he found indeed that he was *born again* to vigor of exertion and to newness of life. He joined the Brick Church in Beekman-street, where to the day of his death he was an exemplary member. Capt. Prince's religion was the religion of his fathers, the Puritans; it was of the orthodox kind, but was not altogether a religion of faith, for he emphatically believed that "faith without works was dead."

He therefore worked and labored for that dear class of people as he called them, to build them a temple in which they could worship the God of their fathers in spirit and in truth. When he left the sea he devoted all the energies of his pious heart to the good of seamen, and he has been often heard to exclaim that he had not a drop of landsman's blood in him. He knew too well both by experience and observation that they were a poor neglected race. He knew that although they were the means of bringing to our shores the rich merchandize of every clime, the products of the Indies, the wealth of Europe, and the riches of South America, yet they who employed them generally regarded them as mere animal property, who performed their labor, and eat of their substance. But Capt. Prince thought them to be a different race of beings, he knew their privations, their toils, their sufferings, he knew how much they stood in need of philanthropy, of Christian philanthropy, to reclaim them from the bondage of moral and spiritual darkness in which they were enveloped, to alleviate their condition while they were ploughing the vasty deep, and to point them to that good and benevolent Being the God of the sea as of the dry land, as their Father and their Benefactor. His noble aim was to place seamen on that high ground to which it ought to be the genius of our affections and of our republican feelings to exalt them; not to consider them as mere slaves who could navigate our ships, and bring our rich cargoes into port, but as men like unto ourselves, entitled to the sympathy of their fellows, liable to the same vicissitudes, and who ought to be partakers of the same enjoyments in life, and of the same glorious hopes of a blessed immortality.

Among the means which have been employed and blessed for the melioration of the condition of seamen, none have been so conspicuous as the Bethel Societies, which were first instituted about the commencement of the present century. The spectacle of holding meetings for religious worship on board of men-of-war and merchant vessels in port, was a novel scene to the hardy sons of the ocean, and perhaps the novelty of the practice was at first the principal cause of their attendance on them. But if novelty first attracted their attention, duty and interest have since been the propelling agents in the work. At these meetings they have learnt that it was their duty to lead moral and religious lives, that there were great and noble incentives to this duty, the approbation of their own consciences, the esteem of their fellow men, and above all the love of their God. They also found that it was not only their interest so to do in a moral point of view, but also in a pecuniary one, for the moral and the virtuous seaman would always find the best ships and the best wages. And when you can convince men by arguments drawn in the spirit of love, that the measures you would have them adopt is both their duty and their interest, and will conduce to their happiness, you will seldom fail to make converts of them.

From these little Bethel meetings great effects have resulted. Floating Chapels, and Mariner's Churches have grown up both in Europe and America, and the weary mariner after having braved the winds and the waves of the ocean, can now in almost every considerable port find a temple dedicated expressly for his use, where he can spend his day of rest in the delightful occupation of worshipping that gracious Being who has preserved him in a thousand dangers. And who that has been an observer for the last twenty years, has not seen what mighty good has been done for the heretofore neglected sailor. Our Mariners' Churches, our Seamens' Savings Bank, our Sailors' Magazines, and our respectable sailor boarding houses, all attest the great, the glorious work of reformation.

Truly has it been said by another, that Capt. Prince was the main spoke in the wheel of the Bethel Union in New York. He rejoiced to see that day, and was glad when Christians of every denomination, joined in the delightful work of rearing a large and commodious edifice for a Mariners' Church. He was on the spot when the corner-stone was laid, and there our venerated friend daily attended to see the progress of the building, and when he saw it completed in the year 1819, and the Bethel flag on its top waving in the air, he rejoiced with a joy unspeakable. There every Sab

bath was seen his venerable form, his whitened locks, and there often has the tear trickled down his furrowed cheeks, when he heard the words of peace and salvation spoken to his assembled shipmates.

In another point of view Capt. Prince was also the friend of seamen. For eighteen years he served as United States Agent for seamen at the New York Hospital, and during that time he admitted more than fourteen thousand sick and disabled mariners in that asylum, where they could have all the attention their sufferings required. It was his duty to attend twice in a week for this purpose, and during this whole period he never failed once of being at his post. Indeed, punctuality was one of his most prominent virtues. He never promised what he did not mean to perform and what he did promise he was sure to be punctual in the performance of. He filled this office until a little more than two months of his death. He was also Secretary of the Marine Society twenty-five years, which duty he ably and faithfully discharged. And as he was the devoted friend of seamen, through a life of more than eighty winters, so he remembered them at his death. He bequeathed the principal part of his property to the Marine Society, to the Seamens' Port Society, and to the Bible Society of New-York, and to the Foreign Missionary Society of Boston.

In fine it may be said of him more than of any other man who has lived in our country, that he was emphatically "The Seaman's Friend.' His life exhibited a scene of activity and devotion to their cause, perhaps rarely equalled and surely never surpassed. If we consider him as a patriot, we must admire his early and ever constant devotion to his country's cause, as a man we must love his punctuality and fidelity in the discharge of his various duties in life; but as a Christian, we must honor him most as treading in the footsteps of his Divine Master, who came to relieve the oppressed, and who went about doing good. And when we contemplate his unwearied assiduity and his successful efforts in the cause of the brave and gallant sons of the ocean, we hesitate not to declare, that the name of Christopher Prince ought to be enrolled among the Benefactors of the human race.

On Sunday April 1st, 1832, a funeral sermon was preached on the occasion of his death at the Mariners' Church by the Rev. Henry Chase, which was listened to with much attention by a crowded audience. The weather beaten visage of many a sailor was bathed in tears when the virtues of their old friend were recounted, and they seemed to feel that their best earthly stay was gone. The following lines written by the author of this memoir, were read on the occasion, and they have since been published in the Sailors' Magazine.

Thou hoary-headed mariner, old ocean's veteran son!
Thy anchor's cast, thy voyage is o'er, thy Christian course is run;
Thy bark is moor'd where no rude storms shall ever more molest,
She safely rides within the port of everlasting rest.

The voyage has been a lengthen'd one, for fourscore years and more
Thou hast been on the cruising ground, where stormy billows roar;
Though many a gale did threaten oft thy bark to overwhelm,
Thou wast unmov'd, for thou didst know the pilot at the helm

Thy voice hath many a shipmate cheer'd when sore depress'd with fear
And many a gallant tar will long thy memory revere;
For thou hast been a chart to them o'er this world's stormy sea,
To guide them from this sinful shore to immortality.

Thy needle always pointed true, and guided by that star,
Which rose in Bethlehem to light the nations from afar,
Through stormy seas and adverse gales thou didst thy vessel steer
For thou hadst heard the master say, "Be ever of good cheer."

The glorious gospel was thy chart, the word of God thy guide,
And in its gracious promises thy soul thou didst confide,

Thou knew'st that when the cruise was up, they gracious Lord would say
Welcome, my son, enter the joys of an eternal day.

And while the Bethel flag shall wave, thy name shall honor'd be,
Thou wast a friend and brother too to all who plough the sea;
It was thy daily wish and prayer that they might love and fear
That Master, by whose counsel thou thy course so long didst steer.

Farewell, thou veteran mariner! old ocean's son, adieu!
Thou now hast reach'd the heavenly port thou long hast had in view;
The storms of earth no more shall rage within thy peaceful breast,
For thou art safely anchor'd in the haven of the blest.

E. S. Gardner.

Israel Putnam, a Major General in the army of the United States, was born at Salem, Massachusetts, January 7, 1718. His mind was vigorous, but it was never cultivated by education. When he for the first time went to Boston, he was insulted for his rusticity by a boy of twice his size. After bearing his sarcasms until his good nature was entirely exhausted, he attacked and vanquished the unmannerly fellow, to the great diversion of a crowd of spectators. In running, leaping, and wrestling, he almost always bore away the prize. In 1739, he removed to Pomfret, in Connecticut, where he cultivated a considerable tract of land. He had, however, to encounter many difficulties, and among his troubles, the depredations of wolves on his sheepfold was not the least. In one night seventy fine sheep and goats were killed. A she wolf, who, with her annual whelps, had for several years infested the vicinity, being considered as the principal cause of the havoc, Mr. Putnam entered into a combination with a number of his neighbors to hunt alternately, till they should destroy her. At length the hounds drove her into her den, and a number of persons soon collected with guns, straw, fire, and sulphur, to attack the common enemy. But the dogs were afraid to approach her, and the fumes of brimstone could not force her from the cavern. It was now ten o'clock at night. Mr. Putnam proposed to his black servant to descend into the cave, and shoot the wolf; but, as the negro declined, he resolved to do it himself. Having divested himself of his coat and waistcoat, and having a long rope fastened round his legs, by which he might be pulled back at a concerted signal, he entered the cavern, head foremost, with a blazing torch, made of strips of birch bark, in his hand. He descended fifteen feet, passed along horizontally ten feet, and then began the gradual ascent, which is sixteen feet in length. He slowly proceeded on his hands and knees, in an abode which was as silent as the house of death. Cautiously glancing forwards, he discovered the glaring eye-balls of the wolf, who started at the sight of his torch, gnashed her teeth, and gave a sullen growl. He immediately kicked the rope, and was drawn out with a friendly celerity and violence, which not a little bruised him. Loading his gun with nine buckshot, and carrying it in one hand while he held the torch with the other, he descended a second time. As he approached the wolf, she howled, rolled her eyes, snapped her teeth, dropped her head between her legs, and was evidently on the point of springing at him. At this moment he fired at her head, and soon found himself drawn out of the cave. Having refreshed himself, he again descended, and seizing the wolf by her ears, kicked the rope, and his companions above, with no small exultation, dragged them both out together.

During the French war he was appointed to command a company of the first troops which were raised in Connecticut, in 1755. He rendered much service to the army in the neighborhood of Crown Point. In 1756, while near Ticonderoga, he was repeatedly in the most imminent danger. He escaped in an adventure of one night with twelve bullet-holes in his blanket. In August he was sent out with several hundred men to watch the motions of the enemy. Being ambuscaded by a party of equal numbers, a general, but irregular action took place. Putnam had discharged his fusee several times,

but at length it missed fire while its muzzle was presented to the breast of a savage. The warrior with his lifted hatchet, and a tremendous war-whoop, compelled him to surrender, and then bound him to a tree. In the course of the action the parties changed their position, so as to bring this tree directly between them. The balls flew by him incessantly; many struck the tree, and some passed through his clothes. The enemy now gained possession of the ground, but being afterwards driven from the field, they carried their prisoners with them. At night he was stripped, and a fire was kindled to roast him alive. For this purpose they led him into a dark forest, stripped him naked, bound him to a tree, and piled dry brush, with other fuel, at a small distance, in a circle around him. They accompanied their labors, as if for his funeral dirge, with, screams and sounds, inimitable but by savage voices. They then set the piles on fire. A sudden shower damped the rising flame. Still they strove to kindle it; at last the blaze ran fiercely round the circle. Major Putnam soon began to feel the scorching heat. His hands were so tied that he could move his body. He often shifted sides as the fire approached. This sight, at the very idea of which, all but savages must shudder, afforded the highest diversion to his inhuman tormentors, who demonstrated the delirium of their joy by correspondent yells, dances, and gesticulations. He saw clearly that his final hour was inevitably come. He summoned all his resolution, and composed his mind, so far as the circumstances could admit, to bid an eternal farewell to all he held most dear. To quit the world would scarcely have cost him a single pang; but for the idea of home, but for the remembrance of domestic endearments, of the affectionate partner, of his soul, and of their beloved offspring. His thought was ultimately fixed on a happier state of existence, beyond the tortures he was beginning to endure. The bitterness of death, even of that death which is accompanied with the keenest agonies, was, in a manner, past: nature, with a feeble struggle, was quitting its last hold on sublunary things, when a French officer rushed through the crowd, opened a way by scattering the burning brands, and unbound the victim. It was Molang himself, to whom a savage, unwilling to see another human victim immolated, had run and communicated the tidings. That commandant spurned and severely reprimanded the barbarians, whose nocturnal powwas and hellish orgies he suddenly ended. Putnam did not want for feeling or gratitude. The French commander, fearing to trust him alone with them, remained till he could safely deliver him into the hands of his master.

The savage approached his prisoner kindly, and seemed to treat him with particular affection. He offered him some hard biscuit; but finding that he could not chew them on account of the blow he had received from the Frenchman, this more human savage soaked some of the biscuit in water, and made him suck the pulp-like part. Determined, however, not to lose his captive, the refreshment being finished, he took the moccasins from his feet, and tied them to one of his wrists; then directing him to lie down on his back on the bare ground, he stretched one arm to its full length, and bound it fast to a young tree; the other arm was extended and bound in the same manner; his legs were stretched apart, and fastened to two sapplings. Then a number of tall, but slender poles were cut down, which, with some long bushes, were laid across his body from head to foot; on each side lay as many Indians as could conveniently find lodging, in order to prevent the possibility of his escape. In this disagreeable and painful posture he remained till morning. During the night, the longest and most dreary conceivable, our hero used to relate that he felt a ray of cheerfulness come casually across his mind, and could not even refrain from smiling when he reflected on this ludicrous group for a painter, of which he himself was the principal figure.

The next day he was allowed his blanket and moccasins, and permitted to march without carrying any pack, or receiving any insult. To allay his extreme hunger, a little bear's meat was given, which he sucked through his teeth. At night the party arrived at Ticonderoga, and the prisoner

was placed under the care of a French guard.

The savages, who had been prevented from glutting their diabolical thirst for blood, took this opportunity of manifesting their malevolence for the disappointment, by horrid grimaces and angry gestures; but they were suffered no more to offer violence or personal indignity to him.

After having been examined by the Marquis de Montcalm, Major Putnam was conducted to Montreal by a French officer, who treated him with the greatest indulgence and humanity.

At this place were several prisoners. Colonel Peter Schuyler, remarkable for his philanthropy, generosity and friendship, was of the number. No sooner had he heard of Major Putnam's arrival, than he went to the interpreter's quarters, and inquired whether he had a provincial major in his custody. He found Major Putnam in a comfortless condition, without coat, waistcoat, or hose; the remnant of his clothing miserably dirty and ragged, his beard long and squalid, his legs torn by thorns and briars, his face gashed with wounds, and swollen with bruises. Colonel Schuyler, irritated beyond all sufferance at such a sight, could scarcely restrain his speech within limits consistent with the prudence of a prisoner, and the meekness of a Christian. Major Putnam was immediately treated according to his rank, clothed in a decent manner, and supplied with money by this liberal and sympathetic patron of the distressed; and by his assistance he was soon after exchanged.

When General Amherst was marching across the country to Canada, the army coming to one of the lakes, which they were obliged to pass, found the French had an armed vessel of twelve guns upon it. He was in great distress, his boats were no match for her, and she alone was capable of sinking his whole army in that situation. While he was pondering what should be done, Putnam comes to him, and says, "*General, that ship must be taken.*" Ay," says Amherst," "I would give the world she was taken." "I'll take her," says Putnam, Amherst smiled, and asked how? "Give me some wedges, a beetle, (a large wooden hammer, or maul, used for driving wedges,) and a few men of my own choice." Amherst could not conceive how an armed vessel was to be taken by four or five men, a beetle and wedges. However, he granted Putnam's request. When night came, Putnam, with his materials and men, went in a boat under the vessel's stern, and in an instant drove in the wedges between the rudder and ship, and left her. In the morning, the sails were seen fluttering about: she was adrift in the middle of the lake; and being presently blown ashore, was easily taken.

At the commencement of hostilities between the colonies and the mother country, Colonel Putnam, on hearing of the battle at Lexington, left his plough in the middle of the field, and without changing his clothes, repaired to Cambridge, riding in a single day one hundred miles. He was soon appointed a major general in the provincial army, and returning to Connecticut, he made no delay in bringing on a body of troops.

Among other examples of patriotism that might be related, the following is from a living witness. The day that the report of the battle of Lexington reached Barnstable, a company of militia immediately assembled and marched off to Cambridge. In the front rank there was a young man, the son of a respectable farmer, and his only child. In marching from the village, as they passed his house, he came out to meet them. There was a momentary halt. The drum and fife paused for an instant. The father suppressing a strong and evident emotion, said, "God be with you all, my friends! and, John, if you, my son, are called into battle, take care that you behave like a man, or else let me never see your face again!" A tear started into every eye, and the march was resumed.

Not long after his appointment, the commander of the British army, unwilling that so valuable an officer should act in opposition, privately conveyed to him a proposal, that if he would quit the rebel party, he might rely on being made a major-general in the British establishment, and receiving a great pecuniary compensation for his services; but he spurned the offer. On the 16th of June

1775, it was determined, in a council of war, at which General Putnam assisted, that a fortified post should be established at, or near Bunker's Hill. General Putnam marched with the first detachment, and commenced the work; he was the principal agent or engineer who traced the lines of the redoubt, and he continued most, if not all the night, with the workmen; at any rate, he was on the spot before sun-rise in the morning, and had taken his station on the top of Bunker's Hill, and participated in the danger, as well as the glory of that day.

When the army was organized by General Washington at Cambridge, General Putnam was appointed to command the reserve. In August, 1776, he was stationed at Brooklyn, on Long Island. After the defeat of our army, on the 27th of that month, he went to New-York, and was very serviceable in the city and neighborhood. In October or November, he was sent to Philadelphia to fortify that city. In January, 1777, he was directed to take post at Princeton, where he continued until spring. At this place, a sick prisoner, a captain, requested that a friend in the British army at Brunswick, might be sent for, to assist him in making his will, Putnam was perplexed. He had but fifty men under his command, and did not wish to have his weakness known; but yet he was unwilling to deny the request. He, however, sent a flag of truce, and directed the officer to be brought in the night. In the evening, lights were placed in all the college windows, and in every apartment of the vacant houses throughout the town. The officer, on his return, reported, that Gen. Putnam's army could not consist of less than four or five thousand men. In the spring, he was appointed to the command of a separate army, in the highlands of New-York. One Palmer, a lieutenant in the tory new levies, was detected in the camp: Gov. Tyron reclaimed him as a British officer, threatening vengeance if he was not restored. Putnam wrote the following pithy reply:

"Sir,—Nathan Palmer, a lieutenant in your king's service, was taken in my camp as a spy: he was tried as a spy; he was condemned as a spy; and he shall be hanged as a spy. ISRAEL PUTNAM."

"P. S. Afternoon. He is hanged."

After the loss of fort Montgomery, the commander-in-chief determined to build another fortification, and he directed General Putnam to fix on a spot. To him belongs the praise of having chosen West Point. The campaign of 1779, which was principally spent in strengthening the works at this place, finished the military career of Putnam. A paralytic affection impaired the activity of his body, and he passed the remainder of his days in retirement, retaining his relish for enjoyment, his love of pleasantry, his strength of memory, and all the faculties of his mind.

He died at Brookline, Connecticut, May 29, 1790, aged seventy-two years.

WILLIAM PRESCOTT, was born in 1726, at Groton in Massachusetts, and was an officer of the provincial troops at the capture of Cape Breton in 1758. He was distinguished in the campaign and was offered a commission in the regular army, which he declined. He was engaged in agricultural and civil employments, until near the commencement of the revolutionary war. He was a member of the Provincial Congress in 1774, and when the militia was organized, by that body, he was appointed to the command of a regiment. He marched to Concord as soon as he heard that Gage had sent Pitcairn with forces to destroy the stores at Concord; before he knew one drop of blood had been spilt. The share he had in the memorable battle of the 17th of June, 1775, should not be forgotten. He proved himself worthy of command by his prowess on that day.

The American army had been quartered at Cambridge nearly two months, and no blow had been struck to rid the country of the British troops or to encourage the natives; some uneasiness seemed to show itself in the camp, and more abroad, that greater energy was not shown; but the wise thought to conquer by *Fabian wisdom*, while others were for decisive measures. The army at Cambridge was known to be large enough to demolish the British, if they could be got at. In this state of feeling, it was thought proper to make some demonstrations of courage and intention of acting *offensively* and *fearlessly*. Col. Prescott was sent with the fragments, or rather

the skeletons of three regiments, on the night of the 16th of June, to occupy a station on Bunker's Hill. On viewing that eminence he found it an ineligible spot; and he looked along to the right, and found that a spur of that hill which was now called Breed's Hill, was the most proper situation, in every respect for a battle ground. Considering that they were within the limits of their orders, Prescott and Col. Gridley, the engineers, began a redoubt on the right of Breed's Hill. It was about one hundred and forty feet square, with two open passages for ingress and egress. On the left of the redoubt, running northeasterly, was a breast-work of sods, not much over four feet high; but not, as has been stated, extending to Mystic River; it did not extend one quarter of the way to it. The line from this breast-work was made of two post and rail fences, placed about four feet apart in parallel lines, and between them was trod the newly mown grass, making quite as good a screen for the militia as the redoubt or the breast-work.

General Ward, concluding from the firing from the summit of Copp's Hill in Boston, that the British would make a struggle to get possession of the works, offered to relieve Prescott and his men, but they unanimously declined the offer, but earnestly insisted on reinforcements. These were reluctantly given, as the commander-in-chief thought that an attack on his camp was contemplated; and in such case, his fortified camp, indifferently fortified as it was, was a better place for a general action than Bunker's Hill.

Early in the morning, from the battery on Copp's Hill, one of the men in or near the redoubt was shot, and was instantly buried on the spot; but although the roar of the cannon from Copp's Hill was incessant, no further damage was done by their shots; and in aid of this battery, the Lively, man-of-war, was brought to bear, and in fact she began to cannonade at early dawn.

General Gage wishing to drive the Provincials from the hill, sent Major General Howe and Brigadier General Pigot, with ten companies of grenadiers and ten of light infantry, with some artillery to perform this service. These generals reconnoitering the American forces, on their arrival at Morton's Point, thought best to wait for reinforcements from Boston. For these, Howe waited from noon to about three o'clock, before the battle was commenced.

The British began a slow march up the hill in two lines, stopping at times to give the artillery a chance to play. But the angle of elevation was such that it did but little execution. The provincials wasted no ammunition; they had but a scanty supply. They were ordered to put four buckshot to a bullet, and to reserve their fire until the enemy were at blank-shot distance. At this moment they poured in upon the approaching foe a most destructive volley. The effect was not more destructive than appalling. The British soldiery, expecting nothing but random shots from undisciplined militia, were astounded at such deadly fires, and their line was broken in confusion. Some companies had not twenty soldiers fit for duty when they were about to rally. The British officers had the greatest difficulty to bring their troops into line again. At length they came up a second time toward the works, but with some wavering; and in less than fifteen minutes their line broke in still greater confusion than before. Clinton saw this from Boston, and hastened over to assist Howe. Both the generals addressed the soldiers; called to mind their former wreaths of glory, and the everlasting disgrace of being beaten by raw militia. Howe swore to them that he would never survive the disgrace, if they were beaten that day. By this time, Charlestown, consisting of four hundred houses, was in a blaze. This Clinton had done to terrify the neighboring army. On the third attack they were under the necessity of resorting to skill, not daring to put it on the score of bravery a third time. Pigot, with a considerable force, took a circuitous rout around the south side of the hill, and came upon the south-western angle of the redoubt, and instantly scaled the slight works. Pitcairn was with him, and was shot through the body as he was about to leap into the redoubt. Pigot, being a

short man, was lifted by his soldiers on to the sods, and jumped into the area without harm. The Provincials were now attacked on the east and on the west; their ammunition was exhausted; and they had few or no bayonets; and after beating their assailants a while with the butts of their guns, Prescott ordered a retreat. Those at the breast-work retreated, and those at the rail-fence followed, over Charlestown neck, northward.

Until the commencement of the retreat, but few of the Americans had been killed. Their unwillingness to leave the ground at the proper time, was the cause of the considerable number of killed and wounded. Capt. Knowlton having a fine large company near Mystic River, moved up in good order, and covered the retreat of those from the redoubt and breast-work. The battle ended between five and six o'clock. The wind during the fight was brisk and westerly, and blew the smoke directly into the face of the enemy; but as the smoke arose over the heads of the British, the Americans, as it were, looking under the cloud, saw where to fire. Prescott was all the fight in the redoubt; the other portion of the Massachusetts militia at the breast-works. The New Hampshire troops, under Stark, Dearborn, and others, were at the rail-fence. They were marching from their native state towards Cambridge, and went on to the battle ground by their own impulses, not having received any orders from the commander-in-chief.

The British had between three and four thousand in the fight. They acknowledged ten hundred and fifty-four killed and wounded, with a great proportion of officers. Their number was most unquestionably larger; for they brought between three and four hundred corpses of the slain and buried them in the corner of a new burying-ground at the bottom of the Common in Boston. The others were buried on Breed's Hill, where they fell.

The Americans had fifteen hundred in the fight, but perhaps there were a few more at times, for volunteers came on to the ground, expended their powder, and retreated, when they could do no more service to the cause. The Provincials had one hundred and thirty-nine killed, and three hundred and fourteen wounded and missing. The officers who fell on our side were, Col. Gardner, of Cambridge, Lt. Col. Parker, of Chelmsford, and Majors Moore and M'Cleary,—all men of distinction and value, and heroes in the cause,—with Major General Joseph Warren.

Warren assumed no command on that day. He had been commissioned as a major-general by the Provincial Congress but four days previous, and had not taken any command; nor had he, in fact, been sworn into office, except as every one had an oath in heaven to live free or die. Warren was, at the moment of his fall, president of the Provincial Congress, and chairman of the Committee of Safety. He had put some one in the chair, and mounted his horse at Watertown, where the legislature was in session, to come and encourage his fellow citizens in the fight. When he entered the redoubt, Prescott offered him the command, but he declined it, saying, "I come to *learn war* under an experienced soldier, not to take any command." He was the martyr of that day's glory. His death was felt as a calamity to the *cause* and to the *nation*. He was in the prime of life, being only thirty-five years of age, a spirit as bold and dauntless as ever was blazoned in legends, or recorded in history. He was a prudent, cautious, but fearless statesman; made to govern men, and to breathe into them a portion of his own heroic soul. His eloquence was of a high order; his voice was fine, and of great compass, and he modulated it at will. His appearance had the air of a soldier,—graceful and commanding, united to the manners of a finished gentleman. The British thought that his life was of the utmost importance to the American army; of so much importance that they would no longer hold together after his fall. They sadly mistook the men they had to deal with. His blood was not shed in vain; *it cried from the ground* for vengeance; and his name will become a watch-word in the hour of peril and glory.

The name of the humblest individual who perished in that fight will be remembered by the town or parish from whence he came, and be generally enrolled on the books of the corporation. Young, substantial yeoman, or industrious mechanics they

were owners of the soil for which they fought.

The battle scene was imposing; the ground was in the immediate neighborhood of a city, whose inhabitants were watching the progress of events, anxious for the nearest friends, while the roar of cannon from ships of war, and from floating and stationary batteries, was followed or commingled with incessant vollies of musketry; a well-built, compact town, was seen in one mass of flames, —and all this, but the commencement of troubles,—was a sight which was appalling to every American, and seemed to shake even the enemy, mind and body, together. The British troops, in considerable numbers, occupied the hill that night, and enlarged the redoubt to nearly twice the original extent; but they did not venture to light their fires—they labored by the sinking, flickering lights which shot up from the smouldering ruins of Charlestown.

For those struggling for liberty, the event of this battle, was most fortunate. The American troops had done enough for honor; enough to produce an impression of their prowess on the minds of their enemies; enough to give them confidence in themselves; and to show that they had learnt something in the way of preparing themselves to correct the errors of judgment in planning a fight. They suffered enough to feel their loss deeply, and yet not sufficiently, in any way, to weaken their forces. The wound received was too deep to be healed at once· the sight was too awful to be soon forgotten.

If the army had come down from Cambridge and Roxbury to the succor, the British would have been destroyed altogether; but with the disposition of the king of England at this period, and the spirit of the ministry, the whole force of the British nation would have been brought to crush us at once.

Col. Prescott was a noble, bold, brave, country gentleman, whose heart was patriotic to the very core. Where danger was, there he was to be found. The good of his country was his chief, his sole desire. He was again found in arms at the capture of Burgoyne. At this event he considered the freedom of the country secure, though their might be much hard fighting to come. He resigned his commission and retired to his farm in Pepperill, a new town taken from Groton the place of his nativity. He was several times sent to the legislature and was an efficient member of this body. He suffered with others of that band of freemen who achieved our independence, by the depreciation of paper money. What they received as a representation of specie became worthless as rags, an eyesore to the possessor, and a stain on the page of our country's history. Col. Prescott died in 1795. in the seventieth year of his age; leaving an only son, Judge William Prescott, a statesman and jurist, who has ably sustained the rights and principles for which his father fought and bled.

Felix Alexandre Pascalis Ouvière was the second son of a respectable engineer of the town of Aix the ancient capital of Provence:—his family by his father's side had been all distinguished for mind, his elder brother had received the cross of St. Louis as a mark of royal favor.

His father had fifteen children, twelve by his first wife, and three by the second. His eldest son entered the army in capacity of surgeon, after several campaigns he was attached to the army of Jamaica, under the command of Count D'Artois, he then acquired the reputation of an able surgeon. On the dispersion of the Royal family in 1790 he followed his master the count D'Artois in the capacity of household surgeon to the court of Sardinia, where he remained, until recalled, under the consulate to take charge of the military hospital of Montpelier, where he died at the age of 67, having received from Napoleon a cross in reward, for his services. His third son graduated at Montpelier, where he acquired considerable reputation, and died in 1819.

Felix, the subject of this memoir was the second son by the first marriage of his father—he was born in 1762. His early education was carefully attended to and he graduated at the Royal College in 1778, thus completing his classical studies at the early age of sixteen. Soon after this he visited the anatomical school of St. Come and St. Damien, where

his elder brother was the principal demonstrator. It was here that he acquired that love for medical science which continued throughout life. With a view of improving himself in this science as a branch of learning (for his family had destined him for the church,) he engaged himself as secretary to the celebrated naturalist, Dr. Darluc. Under his tuition he made rapid progress in medicine as well as natural history, performing with his patron several botanical excursions to the Alps. His course of study was soon however interrupted by the unfortunate death of his friend and patron Darluc, who lost his life while experimenting with electricity. His friends now urged the commencement of his theological studies; they had obtained the promise of a valuable benefice, he was obliged to relinquish his own inclination from a sense of duty to his friends. In the theological seminary of his native town, the Bishop of Boisgelin had established four gratuitous places, open to all candidates, the situation being the reward of the best classical scholar. For one of these situations Mr. Pascalis applied, and taking the first premium received it, he was now provided for, for three years, with ample leisure to pursue classical studies.

His proficiency in literature at this time was considered so great that he had the task assigned to him of arranging the library of the institution. At the end of the three years probationship he passed examination, and although but nineteen years of age received the benefice promised to the family, he received a dispensation to take orders not being sufficiently old. After having spent some short time in travelling in the south of France and visiting Rome, he repaired to Marseilles to take charge of the education of a young nobleman. In 1789 he was still residing at Marseilles, at such a period it could not be expected that a mind like his would remain inactive, the revolutionary storm was gathering, the war of opinion had already commenced, the abuses of the church were arousing the indignation of the people. Mr. Pascalis although enjoying a valuable benefice, and with the road to power and wealth open before him, espoused the popular cause; he published a work exposing the corruption of the French clergy as a body, and delivered a discourse, the object of which, was to prove that the celibacy of the clergy was opposed to public morals, and contrary to the spirit of the apostolic writings. As might be expected this brought down the thunders of the church and he was formally ex-communicated by the Bishop of Belloy. Considering that all ecclesiastical obligations on his part were now at an end, and anxious to pursue his favorite study of medicine, he joined a medical friend who had charge of one of the hospitals of Port Au Prince, where he arrived 1790; but to experience new disappointments; the spirit of the revolution had already furiously entered into the colony. Thrown unexpectedly on his part, in the midst of conflicting parties, unavoidably he became identified in politics. To follow him through the two following years of his life, would be a task of time, it would necessarily embrace the history of the most eventful period of the Haytian revolution—it may suffice to say that after two years of unwearied exertion in the cause of humanity and justice—during which time he effected many important treaties between the parties, he was sent in 1792 to Paris, as one of the four commissioners, to represent the actual situation of the colony and if possible effect some permanent arrangement with the mother country. On his arrival in Paris the reign of terror had commenced; the commissioners were well received, but the same night had their names entered on the list of the proscribed—fortunately for Mr. Pascalis, his friend Admiral De Ruytz got information of the steps taken by the convention, and gave him timely notice—he fled from Paris in disguise, and reached London in safety.

From London, Mr. Pascalis sailed by the first opportunity for St. Domingo by the way of Jamaica; on his arrival at the latter place he found all hopes of serving his party lost—the sudden emancipation of 600,000 slaves had taken place, and the moderate party with whom Dr. Pascalis was identified, had fallen the first victim. The island was now plunged in all the horrors of anarchy and civil war. To add to his

misfortunes, he was arrested by the governor on a charge of being a friend to the blacks and attempting to excite an insurrection among the negroes. From these charges he was honorably acquitted, and as some amends for the persecution he had suffered, the governor offered him passage in a vessel bound to the United States, whither he was anxious to repair. On their arrival at the mouth of the Delaware, they fell in with a French man-of-war, who immediately gave chase, Mr. Pascalis knowing that if taken, he would be sent back to France and that death would be inevitable, he, in company with several passengers, took to the boat; and a fog springing up, left the vessel unperceived. They were fortunately fallen in with by a pilot boat, who took them in safety to Philadelphia. Here he arrived in June, 1793, without friends, and not above $30 in his pocket. Soon after his arrival he received the honorary title of M. D.—and almost immediately afterwards received the premium from the State Medical Society of Connecticut, for the best dissertation on yellow fever, and on the uses of antimony as a medicine. He soon after took the prize for a second dissertation from the medical society of Pennsylvania. At this time the memorable fever of 1793 took place. Dr. Pascalis resided in that city and devoted himself to the care of the sick—having observed the yellow fever in all its different forms and stages in the West Indies, he was well prepared to combat with it. For a short time he was assistant to Doctor Deveze, the surgeon-in-chief of the yellow fever hospital. His increasing practice obliged him soon to resign this situation.

At this time he formed a friendship with the celebrated Benjamin Rush, that was terminated but with death—he was also engaged in a series of chemical experiments for the chemical society of which he was vice president. During his practice in 1793, he became convinced of the non-contagion of the yellow-fever. D'Devire was, we believe of the same opinion—but if we adopt the maxim of l'Harpe, "une venti appartient a celui qui le preuve," the honor should be his. For thirty-five years he labored incessantly to spread his opinions. With what success the present sanitary laws of this country and Europe, when compared with those that existed forty years since will best show. In the course of spreading his theory it was necessary that experiments should be tried for the purpose of proving its truth. The details of all these would be too disgusting to be here mentioned. The least offensive were sleeping with the dead and dying, wearing the clothes taken from the body before it was cold, and innoculation with black vomit of matter from the dead bodies. It is not alone as establishing a fact in medicine that Dr. Pascalis, has been a public benefactor, he has done more in the cause of humanity. While people believed that contact with the sick would communicate the disease, the sufferings of its victims cannot be conceived, much less described. The sick were deserted and left to their fate—and the most sacred ties of nature violated. Who is it that does not honor and revere the philanthropist Girard, for his disinterested devotion in attending the yellow fever patients in 1793—how much greater should be our respect for that man, who almost alone confuted and proved the absurdity of opinions that had been established for ages. How many a poor wretch is indebted to him for the last act of kindness he received from his friend in smoothing his way from time to eternity. How many valuable lives have been saved to the community which would have been lost for want of proper attention. We speak within bounds when we say that *hundreds* perished in Philadelphia during the epidemic of 1793, who were *abandoned from the moment they contracted the disease.* Dr. Pascalis was a non-contagionist in the full sense of the word—he believed in the domestic origin of the disease and ridiculed the opinions of those who contended that a blanket or a pair of shoes had by their infection caused the death of thousands, when local causes of miasma existed, which under more favorable circumstances produced extensive mortalities. During his stay in Philadelphia, he continued his labors in the cause of science—these although on subjects of great importance to the medical profession are such as it would not be proper to give a minute detail of in this work.

At the same time he wrote a series of letters, entitled "Advice to the People," in which he confuted the doctrine of contagion, and gave such advice as he deemed right, both with regard to the means of prevention and cure.

In consequence of these letters, he was appointed in 1802 one of the Board of Health of the city of Philadelphia. This appointment gave him opportunities to spread and inculcate his doctrines with regard to the yellow fever, which were not neglected. In 1805, the yellow fever then raging in Europe, he obtained permission to go out in an American frigate, to investigate the causes of the disease.

Under the protection that he received from the United States Government, he visited the different parts of Spain and Italy, where the disease existed. He also spent some time at Gibraltar, where, of a population of 10,000 men 6,000 had fallen victims. He met and spent some time and made considerable research in company with Messrs. Desguettes Bally and Dumeull, the physicians sent out by Napoleon to observe and investigate the disease. He returned to the United States by the way of Charleston; from thence he visited Baltimore, and finally New York, by the way of Philadelphia, where he took up his residence. After his return to New York, he continued his writings on the yellow fever, and contributed many articles for the public journals particularly the Medical Repository. He was subsequently appointed with Hosack and Macneven, physician to the Almshouse and prisons. In 1812, Dr. Miller, the co-editor with Dr. Mitchill, of the Medical Repository, died. The work was continued by Mitchill, Pascalis and Akerly, who jointly conducted the editorial department. This work he continued five years, during which he contributed largely to the work, having established a scientific correspondence in almost every quarter of the old and new world. In 1819, the yellow fever broke out at Old Slip. This renewed again the discussion between contagionist and non-contagionist, and drew forth from Dr. Pascalis a history of the epidemic, in which its origin was traced to local causes. In 1822. the city was again visited with yellow fever which broke out at the foot of Rector Street. Dr. Pascalis traced the disease to its cause—the immense quantity of decaying animal matter contained in the burial ground of Trinity Church. On this subject he soon after published a work entitled "an exposition of the dangers of interments in cities." This work and his minor writings produced the law forbidding the burial of the dead in the lower part of the city. The law in its course met with great opposition as well from those who advocated the doctrine of the importation of the disease, as from a large body of the community generally—the effect of the law was to deprive many of the churches of a large portion of their income arising from interment fees—this was felt more severely as many of them had expended large sums in the purchase of burial grounds and the erection of vaults. There was another feeling these laws had to contend with, equally if not more powerfully, the desire we all have of mingling our ashes with those who were near and dear to us in this life. Dr. Pascalis' exertions, however, were crowned with success, and while on the one hand he received the ill will of a large portion of the community, on the other he had the satisfaction of seeing, to the day of his death, a period of eleven years, the city free from the yellow fever and believing that its health was in a great measure owing to his individual exertions.

In 1826 and 27, Dr. Pascalis being aware of the importance of the silk culture both in a national point of view, as well as a branch of domestic industry, commenced writing a series of essays on the subject, he was supported in his course by the American Institute of which he was an honorary member, and at their expense imported large quantities of mulberry seed and printed short practical directions for the culture of the tree which were distributed to those who were anxious to engage in the culture. In 1828, he received from Paris three of rooted "morus multicaulis," or chinese mulberry, these were *the first ever imported in the United States*, the plant having been received in France only the year previous, these trees were distributed in different sections in the United States and

in the following year, there were upwards of fifty found in a flourishing condition. Soon after the receipt of the first trees from Paris he procured several for the late A. Parmentier of Brooklyn to whose exertions is due the credit of multiplying the tree to a most incredible extent. In 1829 and 30, he published his practical instructions for the culture of silk and the mulberry tree in two volumes. This work, his last of any importance, was dedicated to, and under the patronage of the American Institute, a body, of whom it may not be improper here to add, for the good it hath done, stands second to none in the United States.

The work on the silk culture as we have before stated was his last of any importance, he continued writing it is true until the day of his death, but he was fast failing in point of bodily strength, and several severe attacks of illness he suffered from, at times impaired the powers of his mind. On the 28th of May, his only daughter died, the late talented Mrs. Canfield. With her death all ties to life seemed to be broken, and in less than two months, he followed her to the grave, having died on the 22d of July, 1833, in the seventy-first year of his age.

Joseph Pulawski Storosa, of Warka, was descended from a long line of illustrious ancestors. He received a first rate education in his own country, which was improved by foreign travel. He had prepared himself to serve his country as a judge, by making himself acquainted with the Justinian code; as a soldier by making himself master of ancient and modern military tactics; as a statesman, by a free intercourse with the liberal of all countries, and by acquiring a deep knowledge of the laws of nations. Elevated by all that was noble in man, he mourned over the degraded state of his country; and resolved to see her free, if freedom was to be gained by any sacrifice that a patriot could make, of fortune, children, home, and life. He was a lover of his country's ancient fame, and deeply read in her history. He could not bear the thought of seeing her throne filled by a minion of the Semiramis of the north,—a wolf prowling for prey among surrounding nations, and making them feel her power from the Caspian to the Baltic, and from Kamtschatka to Constantinople.

Stung by his country's wrongs, he flew to arms, and for several years, by the weight of his character, and the energies of his mind, he stemmed the torrent of corruption, and thus checked the progress of the arms of Russia from 1768 to 1771. With a small army, he contended with a large one; with a few patriotic followers, he hewed down myriads of the instruments of despotic power. He revived after a defeat with almost miraculous suddenness; and when his enemies thought him forever subdued, he came upon them like a bolt of lightning! He dispersed the wicked with a look, and brought together the virtuous by a smile. Avarice stood abashed at his sacrifices of property, and selfishness could not reach the elevation and purity of his motives. There were men who thought him ambitious, and that he aspired to the direction of the affairs of Poland; but they could not fathom the depth of his mind, nor measure the expansion of his soul! A weak and timid monarch charged him with attempts on his life, when his only object was to secure his person for a season, in order to make better terms for those who had incurred the royal displeasure. He formed himself on no recent models —the heroes of antiquity filled his mind. The justice of Aristides, the patriotism and martial character of Epaminondas, were for ever before him. Born to affluence, he only used his riches for the purpose of doing good; and he valued power, hereditary and acquired, only as an instrument of making others happy. The cause of liberty was his cause, where ever found; he was ordained, in early life, as a priest at her altar; and it was the decree of heaven that he should die a martyr in her cause!

Being no longer able to breast the storm in his own country, he fled to Constantinople, where he was obliged to stay several years, before he could get an opportunity to reach France. In Paris he met Dr. Franklin, and made arrangements to come to America and take a part in the war of the revolution. On his reaching this country, congress gave him a commission as a brigadier genera-

and allowed him to raise a corps of horse and foot; and he soon gathered around him a motley, but gallant band of soldiers, who had the highest veneration for their commander.

The spring of 1779 opened with great activity. The possession of Charleston was one of the objects of the British general and his army, who made their appearance with an evident intention of attacking the city. Pulawski took about eighty of his men, those most fresh after their march,—led them out of the city,—placed them in a hollow, to act as an ambuscade, and went himself to join a small body of cavalry and volunteers on horseback. Perceiving there was some timidity among the horsemen, who were unaccustomed to battle, he rode directly up to those who were coming to the attack, and single-handed engaged the enemy. His prowess and success astonished both his friends and enemies, for he struck three of them to the dust in a few minutes. Those who were with him were encouraged, and came on with great spirit,—and those assailed were confounded.

In September, 1779, the French fleet, under Count D'Estaing, arrived on our coast, and General Lincoln marched to the relief of Savannah. The Georgia and South Carolina militia had orders to rendezvous in the neighborhood. Before the arrival of General Lincoln, Count D'Estaing summoned the garrison at Savannah to surrender; but the British protracted the time, and with great exertions, strengthened their works, under their accomplished engineer, Major Moncrieff; and at length bid the count defiance. Lincoln now arrived, and on the 4th of October the place was regularly besieged. Nine mortars and thirty-seven cannon from the land side, and fifteen pieces on the water side, were opened upon the city. But the French were impatient. The officers of D'Estaing's fleet insisted upon raising the siege, and taking the place by storm. No step could be more unadvisable. A short time, with the power brought to bear upon the besieged, would have forced a surrender at discretion. Lincoln remonstrated with the count, but the hot-headed young marine officers in the navy—many of them belonging to distinguished families—had great influence over the admiral and brought him to decide on an attack.

On the 9th of October, at the dawn of the day, while two feints were made with the militia, a real attack was made by a gallant force of French and American troops. The French force consisted of three thousand five hundred, and the Americans of six hundred continentals, and three hundred and fifty citizens of Charleston. The gallant Frenchman at the head of his column, marched up to the lines, and Lincoln at the head of his troops, went *pari passu*. A tremendous fire from the British gallies threw the front of the column into confusion; not from fear, but from the difficulty of disposing of the dead and wounded, in order to fill up their places. The places being supplied, with desperate energy the column marched on to a redoubt, where a conflict took place as fierce and close as ever was fought before the invention of gun-powder. The gate of the redoubt was most gallantly defended by Capt. Fawse, who fell in the gate-way with his sword in the body of an assailant. They were lying side by side. This was the third the brave defender of the works had slain with his own hand. For an instant the French and American standards were seen in the smoke, floating on the parapet; but it was for a few moments only. The air was rent with acclamations; but the enemy's fire was too destructive; a retreat was ordered, after the combined armies had stood their ground for nearly an hour. The ground was heaped with the dead and the wounded. In this short time, nearly nine hundred of the allied armies were killed and wounded. The contest seemed to be, who would most readily dare to die. Six hundred and thirty-seven Frenchmen, and two hundred and forty-one Americans were slain or wounded. The gallant D'Estaing was severely wounded; and mortified at the result, and at the loss of so many brave young officers, he embarked for some more fortunate shore. The militia soon scattered themselves without the consent of the general—they had seen too much of war. The Americans felt their losses most deeply, for among the

slain, fell the Polish count, Pulawski. He had about two hundred horse in the battle. He saw that desperation was the order of the day, and he started at full gallop to pass between the redoubts, and to charge the enemy in the rear, the most judicious movement of the day; but in executing it, he fell, mortally wounded, at the head of his column. His death was deeply deplored by every soldier and patriot in this country.

Alexander Ramsay, M. D. a distinguished lecturer on anatomy and surgery, came to this country about the year 1805, from England, and commenced his labors as a physician and surgeon, but particularly as a lecturer. In New York, New Hampshire, Maine, Vermont, and Massachusetts, and perhaps in other places, he gave several courses of lectures that were well attended. The enlightened considered him the most able demonstrator in anatomy that they had ever seen. He was acute, deep, ingenious, persevering, and confident. His eloquence, at times, was admirable. His language was appropriate, and not seldom elegant. His moral reflections, at times, were striking, and he discoursed upon the harmony of nature as one who had read her through. He walked a hospital as a place of the highest interest, almost bordering on delight. The most profound listened to his observations with reverence, and profited by his conversations. On the other hand, he was proud, dogmatical, and censorious. He scorned to take the opinion of any one, however distinguished. He was not only proud, but vain; for he did not forget, for a single moment, himself, while displaying the works of Omnipotence, considering that himself was the most perfect specimen to be found in creation; while he was, in fact, a singular piece of deformity. His height did not exceed five feet, with a crooked back, short neck, large head, limbs clumsy and misshapen, and the whole mass seemed thrown together by nature in a fit of whim or negligence. To his person he was constantly alluding: if he wished to describe a muscle, he bared his own arm; if he alluded to craniology, he developed the bumps on his own head, which was one of wonderful size. His vanity was so predominant, that amidst admiration at the extent of his knowledge, it was impossible to refrain from laughing at his egotism. If he made an attempt to conciliate, he was sure to offend by some awkward expression. The elements of his mind were strange as the conformation of his body: he saw a hated rival in every M. D., and quarrelled with every one who even wielded a dissecting knife. If he was not the idol of every circle, he declared he was among Hottentots or brutes, and only those who poured upon him a perpetual tide of flattery, had any common sense in his view. He was proud of showing a fine collection of anatomical preparations which he possessed, but he never lost sight of his own skill in the exhibition of them—this was a constant theme. He loved his profession with a fondness that bordered upon insanity, and had the laudable passion of excelling all mankind in it. He often swallowed poisons to try the effects of antidotes, and would detail his feelings with the glow of a novelist, who submitted the plan of a tender scene. It is said that the cause of his death was from a trial of the effects of the bite of a rattle-snake. He had conceived the theory that all poisons were acids, and were to be neutralized by alkalies. It was two years from the time he was bitten before his death—probably the connection was imaginary—the faculty will judge of that.

While preaching a vestal morality, and supporting a religious creed as spiritual as Emanuel Swedenborg's, in his lectures on the beauties of nature, he would throw aside the honey suckle and fig leaf, seemingly with the malicious purpose of giving his followers a glimpse of the god of the garden; for he appeared at times enamoured with monstrosity. He had more eloquence than self-denial, for while he was enchanting his hearers with the beauties of temperance, chastity, and self-control, he was occasionally profane, self-indulgent, and libidinous. The hand that was extended to enforce his eloquence in the praises of the ten thousand virtues of cold water, on which he would dwell until his hearers panted to drink and bathe, at the instant the lecture closed and the curtain fell

was ready to seize the wine cup and enjoy the draught; and if perchance it had, instead of "Samian wine," been filled with old Monongahela, highly sweetened and slightly diluted, he would not have *dashed it down* until he had avenged the insult by seeing the bottom of the holy vessel.

He was fastidious in the extreme. He quarrelled with a shoemaker for not sending him a shoe as handsome as a dancing master's pump, to suit a foot that was hardly human; and denounced a tailor for not making a coat for his hunch-back that would be a fit for a Brummell. To quarrel with him was shutting up a fountain of knowledge; to bear with him at all times, was quite impossible—such a man was Alexander Ramsay. In a moment of irritation, some acquaintance called him the Caliban of literature and science, and this was hardly too severe; but he was a Caliban that often waved Prospero's wand, and raised a potent spell over "Ocean earth and air;" and not unfrequently made many an Ariel obey his biddings. He had a wayward nature when honestly engaged; for if matter was to be discussed, he turned the subject to mind, if mind, to the laws of matter—not that he flinched from any subject of argument, for he delighted in controversy, but he was not content to have a subject offered him. He chose to lead. This could not always be granted him, and he was restless under contradiction. The only man I ever knew who managed Ramsay properly, was Dr. Nathan Smith, who employed him in his anatomical theatre at Dartmouth. When he was waspish, Smith laughed at him, and when good natured, recounted what he had done to others, and at the same time pointed out the path he should pursue, to wealth and fame, and approved all approvable things in and about him. Dr. Ramsay, though naturally saving, or in other words, a lover of money,—had many charitable feelings about him, and has often been known to labor hard to save a patient in a doubtful situation, with no other reward but that of an approving conscience.

Ramsay seemed to think that, in the world of disease, he was the Hercules who was to destroy monster after monster, many having already been conquered, until all corporal evils would yield to his skill and prowess; and he did not stop there, for he imagined that the weight of the profession was on his own shoulders, even while he was speaking, and that he had no Olympian father, as Alcides had, to relieve him from the weight of the heavens While he was indulging in the contemplation of his own importance, his countenance was supportable, but when he distorted it with the frown of what he called "annihilating contempt," it was irresistibly ludicrous,—but his love smile was truly insupportable. It had the sensual leer and coarse vulgarity of the satyr, and was always fatal to every particle of admiration his talents had exerted.

It was not for the purpose of drawing *his frailties from their dread abode*, that the name of Alexander Ramsay was put into this volume, nor to indulge in a splenetic description, but for the purpose of doing good. If in his cabinet of curiosities he carefully prepared and fully exhibited all that was singular and eccentric in nature, it is equally proper for the biographer to exhibit the strange and eccentric in the mental world. Such a character deserves to be thoroughly studied. His arrogance and vanity taught thousands of his pupils how offensive these traits were in him, and if they were wise they learned to shun them. His originality of thought, and boldness of expression, set many to thinking deeply, who otherwise would have been content with the surface of the subject: and many can witness that their first thoughts on not a few important questions, arose from some scintillations from him. The homage that he every where paid to moral virtue and pure religion, is as strong a proof of their divinity, as if he had been apostolic in his whole conduct. The faults of the man were not in the least fascinating—they had no charms of any kind in them, nor were they in any way seductive to any creature on earth, and therefore he is not answerable for corrupting the world; but he did much good, and for that he should receive his due. The grave which takes the sting from

envy, and the venom from malice, has no power over truth;—she writes an epitaph for history without partiality or prejudice, and sends hope and mercy to accompany the departed shade through the dark valley that lies beyond the confines of this world—suffering no one to draw the veil that separates time from eternity.

David Ramsay, a physician, historian, and politician was born in Lancaster County in the state of Pennsylvania and was educated at Princeton College, and graduated at the early age of seventeen, he studied his profession at the medical school in Philadelphia, then just beginning to attract the attention of the country, soon after he left this institution he commenced his professional course at Charleston, South Carolina. He was an ardent politician and espoused the cause of his country with his whole soul. He was among the captured who were sent to St. Augustine when Charleston was taken by the British army. Towards the close of the war he was a delegate from South Carolina to congress and for several months was President pro tem of that body. On leaving congress, he was elected for several years in succession, a representative from Charleston to the legislature of South-Carolina, and discharged his duties in all his political stations, with the greatest integrity and ability. But the fame of the politician is evanescent, whatever his services may be at the time, if he leave not some memorial of his intellectual powers in the form of speeches, or something that may exist in print. Ramsay's fame rests upon the productions of his pen. For at the time in which he wrote, he wielded the most classical pen of any historian among his fellow citizens in any part of the country. He was industrious in his researches, careful in his compilations, judicious in his remarks and above all, paid great attention to his style of writing. He wrote a history of the revolution, a history of America, a history of South Carolina, and a universal history Americanized, all these are among the stock books in American literature, and will be so for ages; there is a spirit of candor and truth in all his writings, that must secure them immortality. He wrote a candid and excellent life of Washington. He knew the man and loved him sincerely. Some of Ramsay's occasional orations and addresses, were admirable, all breathing a patriotic and liberal mind, one of the last from his pen was on the acquisition of Louisiana by purchase. He advocated this measure as a lover of peace, and a friend to his country. Many who had acted with him before, now opposed his views, but time and reflection have proved to the nation that this was a wise measure. The doctrines which were then controverted are now considered sound. The lands in Louisiana unsold, are worth twice the purchase money, and the title for a sum of money, is not, and never can be questioned while one of conquest, would only have been a subject of endless contention. In May, 1815, this accomplished scholar, this honest politician, excellent physician, and admirable historian fell by the hand of a maniac, whom he had offended by giving testimony against his sanity, a few days previous in a court of justice. His talents may be surpassed in his own line, his books superseded by future historians, but his impartial, Christian spirit, it will be well to imitate so long as we have any history to write.

George Reed, was born in Maryland, 1734. He was a pupil of the celebrated schoolmaster Doctor Allison, who like Doctor Busby made good scholars. After leaving school he studied law, and when quite a youth, was admitted to the bar. He began his practice in New Castle in Delaware, where he soon gained the confidence of the people. He was often in the assembly of Delaware, and in 1774 was sent to the continental congress, and was kept there, by repeated elections for many years. He was in the congress of 1776, and at first was opposed to the Declaration of Independence, but when that instrument was to go out to the world, he put his signature to it, for he found that the country was ripe for it, and he continued a firm patriot, during his whole life. After the peace, he filled various offices of great responsibility. He died in 1798, with an excellent character, as a private and public man.

John Read was a man distinguished for genius, beloved by the vota-

ries of literature, reverenced by the contemporary patriots of his country, the pride of the bar, the light of the law, and chief among the wise, the witty and the eloquent—One who lived long and did much, but yet of whom so little is matter of historical record, that a single page would contain all that is written of him. It is painful to think that a man so proudly pre-eminent among his peers, should now be so buried in obscurity. Tradition, it is true, is stored with anecdotes of him, but we look in vain for written memorials. Read gradutaed at Harvard University in the year 1697, and was then among the first scholars of his day. He studied divinity, and was for some time a popular preacher, but not liking the religious dogmas of that day, or fearing that he should not be able to restrain his wit, or keep his gravity at some instance of solemn foolery, or perhaps feeling that he was destined for a more extended sphere of action, he left that profession for the law. The last of his years are distinctly remembered by two veterans of the bar who are now living, for he did not die until February 7, 1749, and these living chronicles confirm the statement, that the numerous anecdotes of him which have come down to us were current soon after his decease.

To prove that he was a profound lawyer, not trammelled by the mere letter of the law, nor confused by its prolixity, it is only necessary to look at his legal labors which are now extant. One act alone should give him immortality. He from his own high responsibility reduced the quaint, redundant and obscure phraseology of the English deeds of conveyance to their present short, clear, and simple forms, now in common use among us. Forms, seemingly prolix, have generally their use, and most lawyers are attached to them from habit, and from a belief that it is better to be tautological, than obscure from too much brevity. His influence and authority must have been great as a lawyer, to have brought these retrenched forms into general use. The declarations which he made and used in civil actions, have many of them come down to us as precedents, and are among the finest specimens of special pleading which can be found. Story has preserved some of his forms, and Parsons used to say that many other lawyers had assumed his works as a special pleader as their own, and that the honors due him, had by carelessness or accident been given to others, who had only copied his forms. In speaking of Read's knowledge of special pleading, Judge Trowbridge related an anecdote to a gentleman of the bar now living. The facts show sagacity and cunning, then the great requisites for distinction, and which at all times have their weight in making up a lawyer's character.

"A merchant of Salem or Boston who had a ship and cargo seized by the king's custom house officer for a breach of the acts of trade, applied to Read for advice; Read told him to replevy the ship and cargo, and a writ of replevin was made out in the form prescribed by the old Province law, commanding the sheriff to replevy the same and deliver them to the plaintiff upon his giving bond to answer the cost and damages at the next Court of Common Pleas, and respond the judgments finally given thereon, and summon the seizing officer to appear and show the cause why he had driven away and impounded the ship and cargo. And as the abating of writs seemed at that time to be a great part of the practice, Read intentionally had given the defendant in replevin no addition, or else a wrong one. On the day of the sitting of the court, the plaintiff in replevin came to him in great agitation, and told him the counsel for the defendant had found a flaw in the writ, and intended to have it abated; Read endeavored to calm his client's apprehensions without letting him into the secret of his intentions, told him to enter the action. Upon the sitting of the court the counsel for the defendant whispered to Read across the table, informing him of the mistake made in the writ, and that he intended to have it abated. Read having examined the writ, and finding it erroneous, desired the defendant's counsel to let him mend it, but he refused. Then Read told him if he would take advantage of his mistake he could not help it; but he must plead it

and thereupon a plea of abatement was made in writing—for some time such pleas were made *ore tenus*—that the writ might abate, and for costs—without requesting a return of the ship and cargo, and judgment was made up accordingly. Then Read told his client to let execution be taken out against him, and when the officer came to serve it, to pay the sum, and not before. At the next term, suit was brought on the bond, and Read prayed oyer of the bond and condition, and pleaded in bar that he had fully complied and performed its conditions, by entering and prosecuting the suit to final judgment, and by paying the execution, in proof of which he produced the sheriff's return on the same. The merchant having sent his ship to sea upon her restoration thereof to him by the writ of replevin, there was an end to the cause."

As a legislator he was conspicuous for several years, but so unambitious a man could not have been a regular leader, he was too independent and enlightened for a lover of prerogative, and too honest for a leader of faction. He spoke with frankness, regardless of political consequences. A great man who condescends to enter into the politics of the day and bear the heat and burthen of it, owes nothing to the public for his honor, but the public are much indebted to him for his exertions. After having been for some time in the House of Representatives he was elected to the Council when Shirley was in the chair, and there pursued the same upright course. Belcher, the predecessor of Shirley, had pursuaded his council that upon the appointment of a new governor it was necessary to renew all civil commissions; this same thing was proposed a council by Shirley, and the precedent brought up, "but Mr Read, a very eminent lawyer, and, which is more, a person of great integrity and firmness of mind, being then a member of the council, brought such arguments against the practice that a majority of the board refused to consent to it."—*Hutchinson*, vol. 2.

His method of managing causes, his terse arguments, his cutting irony, his witticisms, and his good nature too, were well known to that generation of lawyers to which Gridley, Trowbridge, and Pynchon belonged; and facts illustrating his powers and disposition were familiar to the next—to Lowell, Parsons, and those just gone. Every thing said of him went to show his genius, his learning, sagacity, eccentricity, integrity and benevolence.

There is one well authenticated story of his eccentricity of character which I will venture to mention, as it is in consonance with the whole tenor of his life. The intercourse between the south and the north was nothing in a commercial or social point of view to what it now is. Read, one autumn, made up his mind to spend the winter at the south, and planned the journey after his own manner. Dressing himself in the plainest garb which could be considered decent, he cut his staff, slung his pack, and commenced his peregrinations. No knight-errant ever met with more adventures, for he sought them, and made them as he journeyed. The whole tour was full of whim, frolic, and fun, and for many years the whole story was repeated at every court in Massachusetts,—but of lawyers, after the drudgery of the day in court, it can seldom be said as of the sage in the oriental eclogue—that, he often displayed his affluence of intellectual wealth, and at every exhibition his imagination grew warmer and purer, and some new gem was found sparkling among his treasures. These anecdotes had a different fate; they lost something by every repetition; some fact was forgotten, some incident left out, or the ornaments neglected. But meagre as the story has come to us, it is not destitute of interest. As he went on his journey he excited astonishment wherever he came, and among all classes he met. With the breeder of horses he was a veterinary surgeon—with farmers an experienced agriculturalist—with mechanics a master of all trades; every one with whom he conversed thought he belonged to his own art, trade or calling.

In some part of his journey he entered a village in which a court was sitting, and a cause was soon to come on which made a great excitement among the populace. The plaintiff was poor, his title, though just, involved in much intricacy,—

the defendant was rich, with powerful friends and numerous and able counsel. Read collected the facts, and having full confidence in the cause, offered his services to the plaintiff as counsel, and notwithstanding his appearance scandalized the profession, yet the plaintiff had sagacity to discover his merit from a short conversation with him. On the day of the trial the counsel and client entered the court—his vulgar garb was soon forgotten in his first address to the court, stating what induced him to engage in the cause before them—a love of justice, and to show that honesty should be fearless. In a few minutes he both astonished and captivated them. The cause went on, and he displayed such learning and ability, such knowledge even of the statute law of the state in which he then was, that every one on the bench and at the bar, spectators and all, were filled with admiration and respect for the man. The cause was won, and he instantly left the place for new adventures.

Like Galileo and Bacon, Read was too far in advance of the age in which he lived to have been sufficiently honored in his generation, and it is to be deplored that he had no honest chronicler to have traced him from the cradle to the grave, however homely the record might at this time appear. "They had no poet and they died," might justly be the lamentation over many names who deserved a monument, an epitaph, and a page in history.

John Berrien Riker was born on Long Island in the year 1738. Generally speaking there are few men who stand in such relief from the mass of mankind, as to be worthy of having their names enchased in the biographical memoirs of their distinguished contemporaries. But some there be, peculiarly fortunate, who with only good talents, virtue and honor for their portion, are yet so associated with some great and brilliant achievement as to form an essential part of its history. The person above mentioned was one of these. During the most trying periods of the war of the revolution, he was a surgeon in the army; and on the memorable night of the 25th of December, 1776, he was its guide in the eventful march from Coryel and McKonkey's Ferries to Trenton. He had received his education at Princeton College, and pursued his profession at Pennington—so that each woodland path and by-way in that vicinity were perfectly familiar to him, and enabled him on that occasion to render a necessary and important service to his country. With six other officers, viz. Major Munroe, (late President of the United States,) Captain, afterwards Colonel Washington, Major McWilliams, Captain Powell, Captain Arryl, and Dr. Draper, he crossed the Delaware with that division of the army commanded by General Washington in person. The impenetrable darkness of the night and the terrible state of the roads made necessary the services of a guide thoroughly acquainted with every step of the country. And he was not the less fit for that office by being enthusiastically devoted to the objects of the war.

In the still more critical situation of General Washington after he again crossed the Delaware to Trenton, on the night of the first of January, 1777, the same accurate knowledge of the environs of Trenton, put it again in the power of Dr. Riker to be of yet greater service to the army and its illustrious chief. Cornwallis advanced upon them to the Assumpinck with a greatly superior force on the second of January—and but for the lateness of the hour, his attack might have been disastrous to our troops; with his collected forces it might be fatally decisive on the following day. A retreat was necessary, but, by a bold and masterly manœuvre, Washington turned it into an attack in the rear of the enemy. Dr. Riker informed him, should it freeze hard enough, that he could lead the army across the marsh, to the left of the English camp, shorten the route to Princeton, keep clear of the public road, and move on in secrecy and silence. After these happy events Dr. Riker returned to his station behind the Delaware. Of his party Major Munroe and Colonel Washington were wounded and required his care.

His brother, Abraham Riker, was an officer in the army that captured Burgoyne upon the plains of Saratoga. Previous to the battle he lay for several nights under arms, unshel

tered—or, as he expressed it, "with a rock for his pillow, and the heavens for his canopy." He died at Valley Forge, the following spring. In his last moments he feared not to die—but to his Colonel (Van Cortlandt) he expressed with great feeling his regrets that he could not live to witness the freedom of his country.

The Rikers were originally of the town of Lintz in Lower Rhine; but when the great question ran high between the Catholics and Protestants, they espoused the doctrines of the Reformation, and were obliged to fly their country. Following the fortunes of Prince William of Nassau, they settled in Holland, and for a time enjoyed both their religious and their political principles;—but the ambition of Maurice, and religious dissentions arising, determined them to seek that liberty, civil and religious, in the new world, which they could not hope to find on the other side of the Atlantic. Geysbert Riker came from Amsterdam to America about the year 1632. He obtained a patent for a tract of land on Long Island, and for the island adjacent, which bears his name. The estate has descended from father to son, through a period of two hundred years—not agreeably to the English law, by entail, but each youngest son, for six generations in succession, having purchased from his brethren, their portion of the paternal inheritance. The late proprietor, Samuel Riker, was justly esteemed by his townsmen for his integrity, usefulness and love of liberty. In the commencement of the revolution, he engaged with honest zeal in the service of his country. He was a member in the first assembly after peace was proclaimed, in 1784—and the last public act of his useful life was to represent his district in Congress during the years 1808—9. He lived to complete his eightieth year. Dr. Riker died at the age of 57. The Hon. Richard Riker, Recorder of the city of New York, his brother John Riker, counsellor at law, and the lady of Dr. Macneven, of this city, are the children of Samuel Riker.—*M.*

Cesar Rodney, a delegate in the congress of 1776, from Delaware, was born at Dover, in that state, in 1730. Mr. Rodney early took a part in the struggle with the mother country and the colonies. He was distinguished as a firm writer, and his pen was in constant requisition. He served his fellow citizens in the state legislature, as well as in congress, and was for some time president of the state of Delaware He died in 1783, just as the conflict had ended. He suffered much by ill health, and was happily released from all his pains before old age had overtaken him.

George Ross was born at Newcastle, in the state of Delaware, in the year 1730. He was liberally educated, and begun the study of law so young, that he commenced practice at the age of twenty-one, at Lancaster, Pennsylvania, then at Bordentown. He soon became distinguished for his good sense and eloquence, at the bar. As a politician, he made his first attempt in the legislature of Pennsylvania, and gained so much reputation, that when the continental congress assembled, he was found among the delegates from that state. He was in congress when the declaration of independence took place, and put his hand to that instrument. He continued an active politician until 1779, the time of his death. He was an elegant man, clear headed, firm, and fitted for all the duties of public life. His loss, in the midst of his usefulness, was sensibly felt, he being only in his fiftieth year when he was taken away.

Benjamin Rush, M. D. LL. D. an eminent physician and patriot, was born near Bristol, in the state of Pennsylvania, on the 5th of January, 1745. His ancestors belonged to the society of Quakers, and were of the number of those who followed the celebrated William Penn to Pennsylvania, in the year 1683: his grandfather, James Rush, resided on his estate near Philadelphia, and died in the year 1727: his son, who was the father of the subject of these memoirs, inherited both his farm and his trade, which was that of a gunsmith. He died while Benjamin was yet young. His widow, a most excellent woman, upon whom the education of young Rush thus necessarily devolved, placed him, at an early age, under the direction of the late Rev. Samuel Finley, at West Nottingham, in Chester county, Penn-

sylvania, by whom he was taught the rudiments of classical knowledge. Dr. Finley, afterwards better known as the President of Princeton College, New-Jersey, was an able scholar and faithful teacher, and, being also related to Mrs. Rush, may be supposed to have paid great attention to the improvement of his young pupil. But whatever may have been the assiduity with which his education was directed by his preceptor, he possessed an ardent desire for knowledge, and was most unwearied in the pursuit of it.

From the academy of Dr. Finley he was removed to the college of Princeton, where he finished his classical education, and was admitted to the degree of A. B. in 1760, when he had not yet completed his sixteenth year. He was now left to choose a profession, and in the choice which he made he doubtless was actuated by conscientious motives. He seems to have fully known his own character, and to have formed a proper estimate of his talents, and by applying them to the science and practice of medicine, to have been desirous of doing all possible good to the family of mankind. That he was directed by these motives, may be inferred from his own opinion of the utility of medicine. "So great," says he, "are the blessings which mankind derive from it, that if every other argument failed to prove the administration of a providence in human affairs, the profession of medicine would be fully sufficient for that purpose."

He accordingly, soon after leaving college, placed himself under the care of the late Dr. John Redman, of Philadelphia, a gentleman who had deservedly obtained an extensive share of professional business, and who was justly considered an excellent practitioner. With Dr. Redman young Rush continued some time, zealously engaged in the acquisition of the several branches of medicine. At that day, however, no institution for the purpose of medical instruction was established in Philadelphia, and his thirst for knowledge being rather excited than gratified with what he had learned from his preceptor, he formed the resolution of going abroad in order to avail himself of those advantages which were not within his reach in this country. The University of Edinburgh, at that time, was at the zenith of its reputation, and justly boasted of its able professors, among whom were the elder Munro, the elder Gregory, Dr. Cullen, and Dr. Black. Thither Rush repaired, and was graduated M. D. in 1798, after having performed the usual collegiate duties with much honor, and published his inaugural dissertation *De Concoctione Ciborum in Ventriculo.* In this perfomance he candidly acknowledged himself indebted, for many of the opinions which he advanced, to his distinguished teacher, Dr. Cullen.

About the period of Dr. Rush's return to his native country, the first attempt was made in Philadelphia for the organization of a medical school. Lectures on anatomy and surgery had indeed been delivered, in that city, in 1763 and 1764, to a small class of pupils, by the late Dr. William Shippen, who, two years previous, had returned from Europe, where he had completed his education under the direction of the celebrated Dr. William Hunter; and, in 1765, Dr. John Morgan, also, gave instruction on the institutes of medicine and the practice of physic. Three years after this, the venerable Dr. Kuhn, who had been a pupil of the illustrious Linnæus, and had preceded Dr. Rush in his medical honors at Edinburgh only one year, was made the professor of botany and the materia medica. To this list of teachers, Dr. Rush himself was added as professor of chemistry, immediately upon his arrival from England in 1769. Such was the first organization of the medical college of Philadelphia.

That Dr. Rush had, in an eminent degree, the qualifications of a teacher, and discharged with exemplary fidelity the important duties belonging to the elevated station to which he was chosen, the popularity attending his lectures, the yearly increase in the number of his hearers, and the unexampled growth of the college with which he was connected, bear ample testimony. Shortly after this period, he was elected a fellow, and also one of the curators of the American Philosophical Society.

While Dr. Rush was thus engaged in the active pursuits of his profes-

sion, the dispute of the then American colonies with Great Britain arose. Considering the claims of the British Government unjust, he entered with warmth into the defence of the rights of his countrymen. His talents were already well known, and the fullest confidence was placed in his integrity and patriotism. The crisis demanded his services; and in the year 1776, he was chosen a member of congress for the state of Pennsylvania, and, on the 4th of July, with eight other delegates from that state, he signed the instrument of independence. Upon the 11th day of April, 1777, he was appointed surgeon general of the military hospital in the middle department. His colleague in the medical school, Dr. Shippen, on the same day was appointed director general of all the military hospitals for the armies of the United States, and Dr. J. Jones was made physician general of the hospital in the middle department. The office of surgeon general was not long held by Dr. Rush. He indeed fulfilled the duties of his appointment with all the promptitude suitable to the exigency of the times; but as he had more particularly directed his studies to the practice of physic, and deemed himself better prepared to watch over the concerns of the medical department, he gave a decided preference to a station of that kind. His wishes were soon granted, for upon the 1st of July, 1777, he was created physician general of the hospital, in the middle department, in the room of Dr. Jones.

On the 6th of February ensuing, Dr. Rush resigned the station of physician general, and Dr. William Brown was appointed in his place. We shall here forbear any remarks upon Dr. Rush's resignation, nor shall we offer any conjectures as to the causes which led to it. We are certain he did not quit the public service on account of any difficulties incident to the office, or from any want of inclination to promote, by every honorable means, the cause of his country. Serious disputes had arisen among the heads of the medical staff, and there existed many heavy charges of impropriety of conduct on the part of the managers of the hospital stores, which eventually terminated in an investigation by a court of inquiry. The character of Dr. Rush remained unsullied, and being determined to remain free, even from the suspicion of mal-conduct, he totally withdrew himself from the hospital department.

Dr. Rush, however, still continued to take an active part in the politics of the state to which he belonged. The original government of Pennsylvania is known to have been perfectly unique in its form, and the constant source of incalculable mischief. The house of representatives, chosen annually by the people, and on which there was no check, was the sole legislative power; and each succeeding assembly often made it their business to undo all that their predecessors had done. This kind of government was justly reprobated by Dr. Rush, and the necessity and wisdom of a reformation in it was too apparent not to be attempted. Dr. Rush, and many other distinguished abettors of the cause, had soon after the satisfaction of seeing a new form of government established in Pennsylvania, by a general convention of the people.

He who has acquired a high reputation in pursuits which do not belong to his profession, is doubly obligated to establish a character as a successful cultivator of that art or science to which his primary attention may have been directed. Of this circumstance Dr. Rush was fully aware: he was already acknowledged an able teacher and practitioner of medicine; but he had also devoted a considerable portion of his time to politics and legislation, and well knowing that the science of medicine afforded ample room for the deepest researches of human intellect, and abundant opportunity for the display of the greatest talents, he formed the resolution of retiring from political life, and of devoting the remainder of his days, with increased ardor, to his profession. He was still further induced to this resolution, from the consideration of the state of medicine in his native country at that time, which, it is scarcely necessary to remark, was in a very low condition. Happy for medical science and the interests of humanity, that he so early formed such a resolution, and that he was so steady, uniform, and indefati-

gable in the accomplishment of it.

During the long and brilliant career of Dr. Rush's life, from this time to its termination, he may be considered as exclusively occupied in duties pertaining to his profession, and not unlike another Howard, in "surveying the mansions of sorrow and pain," and in mitigating and removing the distresses of all within his power. His biography, therefore, like that of most other scientific men, consists chiefly in a history of his professional labors. How numerous and important his services, as an author, have been, will be readily seen from a brief detail of his writings, which we shall attempt to give, as nearly as practicable, in chronological order.

The first fruits of his professional labors, as an author, was an account of the effects of the stramonium, or thorn apple: this appeared in the year 1770, and was published in the transactions of the American Philosophical Society, vol. 1st. The same year he addressed a letter, on the usefulness of wort in ill conditioned ulcers, to his friend Dr. Huck, of London, which was published in the Medical observations and inquiries of London, vol. 4th. In 1774, he read, before the Philosophical Society, his interesting inquiry into the Natural History of Medicine among the Indians of North America, which formed the subject of an anniversary oration. He this year again addressed another letter to Dr. Huck, containing some remarks on bilious fevers, which was printed in the London Medical Observations and Inquiries, vol. 5th. To this succeeded his Account of the influence of the military and political events of the American revolution upon the human body, and Observations upon the diseases of the military Hospitals in the United States, which his situation in the army eminently qualified him to make. In 1785, he offered to the Philosophical Society of Philadelphia, an inquiry into the cause of the increase of bilious and intermitting fevers in Pennsylvania; published in their transactions, vol. 2d, and soon after, in quick succession appeared Observations on Tetanus, an Inquiry into the Influence of Physical Causes upon the Moral Faculty, Remarks on the effects of Ardent Spirits upon the body and mind, and his Inquiry into the causes and cure of the Pulmonary Consumption. About this time, also, appeared his paper entitled Information to Europeans disposed to migrate to the United States, in a letter to a friend in Great Britain; a subject which had already occupied the attention of Dr. Franklin, but which Dr. Rush considered still further deserving notice, on account of the important changes which the United States had lately undergone. To this paper followed his Observations on the Population of Pennsylvania, Observations on Tobacco, and his Essay on the Study of the Latin and Greek Languages, which was first published in the American Museum of Philadelphia. This last mentioned paper, which has been the fertile topic of much animadversion, was, with several other essays of Dr. Rush, and his Eulogiums on Dr. Cullen and the illustrious Rittenhouse, the former delivered in 1790, the latter in 1796, embodied in an octavo volume, entitled Essays, Literary, Moral, and Philosophical, and published in 1798.

In 1791, the Medical colleges of Philadelphia, which on account of certain legislative proceedings, had existed as two distinct establishments, since the year 1788, became united under the name of the University of Pennsylvania: and Dr. Rush was appointed to the chair of the professorship of the institutes of medicines and clinical practice. He now gave to the public his Lectures upon the Cause of Animal Life. The same year he presented the Philosophical Society his Account of the Sugar Maple Tree of the United States, which was published in their transactions, volume 3d; and in 1792, Observations, intended to favor a supposition that the Black Color of the Negro is derived from Leprosy; published in their Transactions, volume 4th.

The year 1793 is memorable in the medical annals of the United States, from the great mortality occasioned by the yellow fever, which prevailed in the city of Philadelphia, and the history of that epidemic, which was published by Dr. Rush in 1794, cannot be too highly valued. both on

account of his minute and accurate description of the disease, and the many important facts he has recorded in relation to it. It was comprised in one volume octavo, and has undergone several editions, and been extensively circulated in the Spanish and in the French language. About this period, also, he offered to the medical world his observations on the Symptoms and Cure of Dropsy in general, and on Hydrocephalus Internus; an Account of the Influenza, as it appeared in Philadelphia in 1789, 1790, 1791; and Observations on the State of the Body and Mind in Old Age. In 1797 came out his Observations on the Nature and Cure of Gout, and on Hydrophobia; an Inquiry into the Cause and Cure of the Cholera Infantum; Observations on Cynanche Trachealis, &c.

It is proper to state, as connected with the literary labors of Dr. Rush, that in 1788, many of his medical papers were collected together, and that he offered them to the public under the title of Medical Inquiries and Observations, volume first. These he from time to time continued, embracing most of the writings above enumerated, besides observations on the climate of Pennsylvania, and some others, until a fifth volume was completed in 1798. In 1801 he added to his character as a writer, by the publication of six Introductory Lectures to a course of Lectures upon the Institutes and Practice of Medicine, delivered in the University of Pennsylvania. In 1804 a new and corrected edition of his Medical Inquiries, &c. was printed in four volumes, octavo. In 1806 he also published a second edition of his Essays. In 1809, such was the demand for the Medical Inquiries and Observations, he again revised and enlarged the work throughout, and enriched the medical profession with a third edition. In this edition he continued his several histories of the yellow fever, as it prevailed in Philadelphia from 1793 to 1809. It also contained a Defence of Blood-letting, as a remedy for certain Diseases; a view of the comparative state of Medicine in Philadelphia between the year 1760 and 1766, and the year 1809; an Inquiry into the various sources of the usual forms of Summer and Autumnal Diseases in the United States and the means of preventing them; and the recantation of his opinion of the Contagious nature of the Yellow Fever.

He now formed the idea of selecting some of the best practical works for republication in America, and in order to render them more useful, of adding to them such notes as might the better adapt them to the diseases of his own country. His editions of Sydenham and of Cleghorn were published 1809, and in 1810 appeared those of Pringle and Hillary. In 1811 appeared a volume of Introductory Lectures, containing those he had formerly published, with ten others delivered at different years before his class, and also two upon the pleasures of the senses and of the mind. His work upon the Diseases of the Mind, which had long and ardently been looked for, was next added to his writings. It appeared towards the close of 1812, in one volume octavo. The last effort of his pen was a letter on Hydrophobia, containing additional reasons in support of the theory he had formerly advanced, as to the seat of the disease being chiefly in the blood-vessels. It was addressed to Dr. Hosack, and written not many days before his fatal illness.

While thus assiduously engaged in enriching medical science with the valuable fruits of his long and extensive experience and in the active discharge of the practical duties of his profession, he was, on the evening of the 13th of April, seized with symptoms of general febrile irritation, which were soon accompanied with considerable pain in his chest. His constitution was naturally delicate and he had acquired, from previous illness, a predisposition to an affection of his lungs. He lost a moderate quantity of blood, by which he felt himself considerably relieved. But his strength was not sufficient to overcome the severity of his complaint: the beneficial effects resulting from the most skilful treatment were but of temporary duration. His disease rapidly assumed a typhus character, attended with great stupor and a disinclination to conversation. In other respects, however, he retained his faculties, and the perfect consciousness of his approaching dissolution. On Monday evening ensuing, after a short

illness of five days, and in the 69th year of his age, he ended his truly valuable and exemplary life. His death was the subject of universal lamentation, and he was followed to his grave by thousands, who assembled to bear testimony to his excellence.

In January, 1776, he married Miss Julia Stockton, daughter of the Hon. Judge Stockton, of New-Jersey, a lady of an excellent understanding, and whose amiable disposition and cultivated mind eminently qualified her as the companion of Dr. Rush. Thirteen children were the fruits of their marriage, nine of whom still survive. Two of these are chosen to offices of high respectability in the general government of the United States.

To the preceding account of the life of Dr. Rush, taken from a Biographical sketch by Professor Francis, and published in Hosack and Francis' American Medical and Philosophical Register, vol. iv, we subjoin some additional remarks on his character and writings, as contained in Dr. Francis' Discourse before the Rutgers' Medical Faculty. Did not our limits forbid, we would gladly avail ourselves still further of copious extracts touching the character of Dr. Rush, as drawn up by his eminent friend and correspondent, Professor Hosack, of New-York, who, in his disquisitions concerning the studies and professional career of the great American physician, has instituted no inapt comparison between him and the illustrious Boerhaave. (See Hosack's Medical Essays, vol. 1. 8vo.)

"It were no easy task," says Dr. Francis, "to do adequate justice to the great talents, the vast labors, and the exemplary character of Dr. Rush. From the imperfect sketch which I have thus rapidly given, it is presumed, some idea may be formed of his incessant devotedness to the improvement of that profession of which he was so bright an ornament. His merits, as a practitioner, are too well known to need particular enumeration: he was fully aware of the great responsibility attached to the medical character, and uniformly evinced the deepest solicitude for the recovery of his patient. His kindness and liberality in imparting aid to those from whom no remuneration was ever to be expected was unbounded, and arose from the generous impulse of his nature, the cordial concern he felt in whatever affected the interests of his fellow creatures. 'Let the poor of every description,' says he, 'be the objects of your peculiar care.' 'There is an inseparable connection between a man's duty and his interest. Whenever you are called, therefore, to visit a poor patient, imagine you hear the voice of the good Samaritan sounding in your ears, 'Take care of him and I will repay thee.'

"His mind was of a superior order: to a perception naturally ready and acute, he united a discriminating judgment, a retentive memory, which was greatly improved by habits of close attention, a brilliant imagination and a highly cultivated taste He possessed a comprehensive understanding: his knowledge was varied and in many branches profound, and he eminently excelled in the several departments of his profession. In his assiduity and perseverance in the acquisition of knowledge he had no superiors and few equals. Accustomed to constant and regular exercise, his intellectual powers acquired additional vigor from employment. Notwithstanding the great fatigue he had to undergo in the discharge of the practical duties of a laborious profession, and the constant interruptions to which he was exposed, when engaged in his pursuits as an author, he never for a moment abated of his ardor in the cause of science. He was the incessant and unwearied student; he was familiar with all the standard authors, and his reading kept pace with the discoveries and improvements of the age. That the same individual should be at the same time at the head of medical practice in a large and populous city, that he should have been the first of medical teachers in a great University, and the most assiduous prescriber for its extensive hospitals; that he should possess a leading influence among its numerous literary institutions and public charities, and be moreover among the most voluminous and able writers of the time, and all, amidst the active competition of numerous rivals of high and varied pretensions, is only to be accounted for by his habits of

vigorous and unremitted application. What the biographer of the illustrious Roman orator has asserted of his hero, may be said with equal justice of our countryman: 'His industry,' says Middleton, 'was incredible beyond the example or even conception of our days: this was the secret by which he performed such wonders and reconciled perpetual study with perpetual affairs: he suffered no part of his leisure to be idle, or the least interval of it to be unimproved; but what other people gave to the public shows, to pleasure, to feasts, nay even to sleep and the ordinary refreshments of nature, he generally gave to his books, and the enlargement of his knowledge.' And what Cicero himself has declared of the excellence of study seems to have early directed the conduct of Dr. Rush himself. 'Study employs us in youth, amuses us in old age, graces and embellishes prosperity, shelters and supports adversity, makes us delighted at home and easy abroad, softens slumber, shortens fatigue, and enlivens retirement.'

"His habits of punctuality to every kind of business in which he was employed were the subject of general encomium. Thus, while under the pupilage of Dr. Redman, during the whole six years, he could not enumerate more than two days interruption from business, and we are told that as a physician to the Pennsylvania Hospital he was never known to vary ten minutes in his professional appointments from the hour of attendance, for the long period of thirty years. This punctuality, added to a judicious arrangement of time for his multifarious occupations, secured to him sufficient leisure for the publication of those works which have given such celebrity to his name."—"His writings," continues Dr. Francis, "claim our attention both on account of their extent and their variety. It was for the purpose of setting this fact clearly before you that I was the more particular in my enumeration of them. These products of his intellect show much reading, deep investigation, and tried experience. He seems to have combined with peculiar felicity the most useful in physical science with the most elegant in literature. Instead of being a mere collator of the opinions of others, he was constantly making discoveries and improvements of his own, and from the results of his individual experience and observation, established more principles and added more facts to the science of medicine, than all who had preceded him in his native country. His description of diseases, for minuteness and accuracy of detail, cannot be exceeded, and may safely be regarded as models of their kind. In the treatment of gout, dropsy, consumption of the lungs, and the diseases of old age, he has enlarged our views of the animal economy, and thrown more light upon the peculiar character of these afflicting disorders, than is to be derived from the investigations of any other writers. What vast and widely applicable principles has he given in that small but pregnant essay, entitled A Defence of Blood-letting? His volume on the Diseases of the Mind, in as far as it exhibits the infinitely varied forms which those disorders present, is a storehouse of instruction. The great demand for this work caused its early reprint. By metaphysicians it has been recognised as furnishing many valuable facts and principles on the pathology and functions of the brain; and as presenting an able classification of the phenomena of its disease. During my casual attendance upon the lectures of the late Professor Brown, of Edinburgh, the distinguished physiologist of the intellectual powers, and the successor of Dugald Stewart in the metaphysical chair, my national feelings were largely gratified, by hearing from such high authority this treatise of Dr. Rush pronounced a work full of instruction and of great originality. Had his labors been limited to these subjects alone, his character would deservedly have been cherished by future ages. His reputation, however, will permanently depend upon his several histories of the epidemics of the United States, which have rendered these productions familiar wherever medical science is cultivated, and will hereafter cause to be inscribed upon the same imperishable column that bears testimony to the merits of Sydenham and Boerhaave, the illustrious name of Benjamin Rush. The respect and consideration which his publications pro-

cured for him among his contemporaries, were such that the highest honors were accumulated upon him in different parts of Europe, as well as in his own country, and he was admitted a member of many of the most distinguished literary and philosophical associations of both worlds."

After noticing some of the peculiarities in the character and writings of the American Sydenham, as Dr. Rush has been often called by sound authority, Professor Francis proceeds:

"Exalted as was the character of Dr. Rush, immense as were the services he rendered his countrymen, few professional men of any age or country have been the subject of more violent and unrelenting persecution. His great eminence rendered him the object at which envy, jealousy and disappointed ambition directed their malign efforts. So great was the persecution against him at one time, even after he had arrived at the maturity of his renown, that he contemplated removing himself and family from Philadelphia, the scene of his meritorious exertions. The notorious Cobbett assailed him with all the spirit and all the force of his vituperative genius. Against this libeller he was induced by the urgency of friends to institute a prosecution; a jury of his countrymen awarded to him a large sum for damages. This award, with his characteristic magnanimity, he distributed to the poor. Though moderate in his pecuniary circumstances, and looked up to by a large family, he never yielded to the sordid impulses of our nature.

"There are other qualities which entitle Dr. Rush to our respect and esteem. In private life his disposition and deportment were in the highest degree exemplary. Admired and courted for his intellectual endowments, he riveted the affections of all those who enjoyed the pleasure of an intimate acquaintance. The affability of his manners, the amiableness of his temper, and the benevolence of his character were ever conspicuous. He was ardent in his friendships, and forgiving in his resentments; and yet entertaining a due regard for himself and a nice sense of honor, he possessed a manly independence of spirit, which disdained every thing mean and servile. He had an extraordinary command of language and always imparted his thoughts in a peculiarly impressive and eloquent manner. His eloquence as a public teacher surpassed that of all his contemporaries. The youth who repaired to his lectures for wisdom, insensible of the lapse of time, lingered with rapture on his lessons.

"Those who had the happiness to experience the delights of his conversation will long recollect with pleasure, his unassuming modesty, and the rich stores of knowledge he poured forth on the most instructive topics. Even when his opinions were solicited, they were given not as the dictates or admonitions of a superior but as the kind advice of a friend and equal. He never evinced any of that haughtiness and affection of importance which sometimes attach to men of eminence, and which so materially lessen the pleasures and comforts of social life.

"He was a believer in Christianity," continues Dr. F., "from an examination of its principles and the deepest conviction. The purity of its doctrines and the excellence of its precepts were a frequent topic of his conversation: its practical influence upon his conduct through life he often acknowledged, and cherished with a fervent hope, the animating prospects it affords. With the good old Bishop Burnet he fully coincided, 'that a man living according to the rules of religion, becomes the wisest, the best, the happiest creature he is capable of being.' His writings in numerous places bear testimony to his Christian virtues; he designed to conclude his literary and professional labors with a distinct work on the medicine of the Bible; and in a letter written a short time before his fatal illness he candidly declares, that he had acquired and received nothing from the world which he so highly prized as the religious principles he received from his parents. It is peculiarly gratifying to observe a man so distinguished in a profession in which by the illiberal, religious scepticism is supposed to abound, directing his talents to the maintenance of genuine piety and the enforcing of Christian virtue. To inculcate those principles which flow from the source of all truth and purity, and to impart them

as a legacy to his children, was an object dear to his heart, and which he never failed to promote by constant exhortation and the powerful influence of his own example.

"Let our youth then be excited by the powerful example of Dr. Rush to form an exalted opinion of the dignity and usefulness of the profession, and let them support that dignity and exemplify that usefulness by the same active exertions in the cause of science and humanity, that have characterized this able and learned physician.

"Such, gentlemen, was the man whose character I have feebly attempted to delineate. But he has a still further claim upon your gratitude. His name is enrolled on the charter of your independence among the heroes of that revolutionary contest in which our ancestors pledged their lives and fortunes in behalf of their bleeding country. While a youth he caught the ennobling spirit of patriotism and through life cherished those feelings which are consecrated to its interests and glory."

For further particulars of the life and character of this eminent philanthropist and physician, consult Chalmers' Biography, Life in Rees' Cyclopedia, Hosack's Essays, New-England Medical Journal, Life in American Med. and Philos. Register, Thatcher's Med. Biog.

Thomas Russel a distinguished merchant of Boston was born in the year 1741. He was the son of James Russel a counsellor of state, and descendant of Richard R. Russel who was an early settler in the county of Middlesex. Thomas the subject of this article commenced commercial business in Boston and Charlestown several years before the revolutionary war and during that struggle was fortunate in almost every thing he did, and at the close of it was considered among the first merchants in New England. He was truly a whole-souled man, and had a share in every thing that had a tendency to advance the interests of his friends and the community. If any commercial enterprise was proposed the question was asked in the familiar language of the day what does Tommy Russel say. He was the guide and head of the concern. In every social circle he bore his part; in every case of public charity he was taxed the highest, and paid as others assessed. To the poor his name was sacred. Many blessed him without personally knowing him. He had more the manners of a republican than those of less wealth, while he was a leader among those inclined to aristocratical feelings and manners. There were moments, perhaps, when he internally smiled at the *Novi homines*, that assumed consequence and style and wished to draw him from the mass of his fellow citizens, but he had too much good sense to play the Venetian senator, when he knew that he had the influence and the blood of the Gracchi. Be it understood, that he was among the firm supporters of the State and the United States Constitutions and labored day and night to have the latter adopted.

Around his hospitable board were found the finest minds of the land; for he was engaged in every thing that had a tendency to promote the public good. The merchant, the statesman, the agriculturalist, the manufacturer were with him and he was the father of all. At his death he was the most popular man in New England, for he asked for no honors, and was willing to take a great share in every burthen. He did not live long enough for the community, having died suddenly at the early age of 55, on the 8th of April, 1796. He was princely in his nature without one particle of the huckster in his habits. His fortune come in a shower and was distributed in generous currents. In his generosity there were no little babbling rills of charity: his bounty like that of the noble Roman "had *no winter in it*." At this early age of 55 he died the wealthiest man that ever had deceased in Massachusetts, a proof that the generous donor is often the most successful accumulator of wealth.

John Russel, for many years the editor and proprietor of the "The Boston Commercial Gazette," was born in Boston in the year 1763, and died at Bath in the state of Maine the 24th of August, 1831, aged 68. In early life he was engaged in conducting a paper in Philadelphia, but after a few years he returned to his native

town and commenced the Commercial Gazette. He was a man of fine disposition, of good taste and extensive reading; of bland manners, and of excellent conversational powers.

He was intimate with the poets, scholars and events of the day. Paine, Prentice, Lathrop, and others, shared his hospitality; and they in turn enriched his columns. He was always among the first in any act of kindness and charity; and whatever he did, was done in such a way as to enhance its value. Several years before his death, he sold out his establishment and gave up the cares of an editor, but his chief pleasure was still to enter a printing office, and look over all the papers, just as he did when in business. His practiced eye would detect any error in words or press work; which he would point out to the young printer, and teach him to avoid it.

Without being able, perhaps, to state a canon of criticism, he was an excellent judge of composition. He read with so much taste and candor, that some, the best writers of his time—and there were not a few about him—would alter a sentence at his suggestion, or on his simply saying that the alteration would suit him better. When he began the Gazette, a newspaper was a different thing from what the great proportion of them, necessarily, now are. In addition to the current news of the day, they contained numerous essays on all great national subjects, for the people had not then settled so many of the great points of politics and economy, as they now have. The most enlightened men took up their pens and wrote with great earnestness, to sustain the federal constitution, then just put into operation. The paper chosen as the vehicle of these communications, was generally that under the charge of the best judge of good writing, for every author is much indebted to a good printer. A printing office, if rightly improved, is one of the best schools that can be found in a free country, and has developed some of the most active minds that were ever known among us. For more than half a century Mr. Russel was pupil and teacher in this school, and in every relation maintained a fair reputation for talents, integrity and usefulness.

Timothy Ruggles was born in Rochester, Mass., Oct. 11, 1711, was the eldest son of the Rev. Timothy Ruggles, minister of the first parish in that town, and was the second minister settled in Rochester. He was educated at Cambridge, and it was his father's fervent wish to introduce him to the work of the gospel ministry; but he had no inclination to gratify his father in that respect. He represented the town of Rochester in the General Court, in the year 1736, but it does not appear that he had any wish to be re-elected. In that year he procured a temporary act, which was afterwards made perpetual, prohibiting deputy sheriffs from filling writs. Having made choice of the practice of law for his business, he opened an office in Sandwich, in the county of Barnstable. He married a widow, and opened a tavern—in which business he was particular in *personal* attendance, getting oats, bridling horses, &c. saying, he would never be too big for his own business. While here he attended the courts in Plymouth, Bristol, and Barnstable counties; and there were few actions of magnitude, but that he and old Col. Otis met each other on opposite sides. As a scholar he was much above mediocrity; his strength of mind was great; his reasoning powers and his legal information placed him among the most able advocates of that day; but his manners were coarse, rough and offensive; his wit was brilliant, but harsh and unpleasant; his arguments to a court or jury were luminous and impressive; but in his private conversation he did not so studiously avoid profanity, as prudence would have dictated. Mrs. Warren, in her celebrated play, "*The Group*," has not far departed from propriety, when in the *persons of the the drama* she gave him the name of *Brigadier Hate-all.*

Having practiced some time in Sandwich, he conceived the business there to be too limited to make it a proper sphere for him to move in; and he accordingly removed to Hardwick in the county of Worcester. While here he entered a military life; He was the second in command in General Johnson's fight, so called, in which action the Baron De Dieskau, the French general, was defeated.

wounded and taken prisoner. His activity in said action recommended him to the favorable notice of his sovereign, George II. who gave him a lucrative office under the crown; and he was also appointed *first justice* of the Court of Common Pleas in that county, and often represented that town in the General Court.

During the active career of this gentleman, the British minister, Mr. Grenville, conceived the project of raising a revenue in America, and he ushered the stamp-act into parliament where it became a law. This measure caused a universal clamor in the colonies. A general Congress was chosen which met in New-York, 1765; of this Congress, Brigadier Ruggles was a member, and is said to have been the president, but for this I can find no documental authority.

It is presumed that at the time of his election, he was not considered as an advocate for the British claims: however, his conduct there did not meet the approbation of the Provincial Assembly, by which he was chosen; of which he was not long after made sensible, in a way not the most pleasing to him; and ever after that, he was pointed against the measures adopted by the colonists.

On mutilating the charter of Massachusetts, in 1774, he was appointed a member of the Council, by the king's mandamus. The spirit of the people, and his own personal safety, made it necessary for him to abandon his place of residence, at Hardwick, and take protection in the capital which was then garrisoned by a British army. In this place he distinguished himself by his utmost malignity against the measures adopted by the colonists. From hence he sent into the country his famous association, fondly hoping by means of that, to damp the ardor of the colonists, and abate their energy; but it was too late for that, his association had no other effect than to increase the political flame.

He remained with the British during the revolutionary war, and settled himself at, or near, Port Roseway, where he spent the residue of his days.

Nathaniel Saltonstall, a physician of Haverhill, was born in that town, on the 10th of February, 1746. He was a son of Richard Saltonstall, a judge of the supreme court of Massachusetts; a descendant of the renowned Sir Richard Saltonstall, who emigrated to this country in 1630, with Governor Winthrop, and that distinguished band of Christian heroes and philosophers, whose deeds are well known to the world. In 1692, there was a Judge Saltonstall on the supreme bench of Massachusetts, descended from Sir Richard, when the poor wretches were tried for witchcraft, and he had the good sense to scout the whole concern, for which he would probably have been removed from the bench, if the great mass of the people had not come to their senses before any complaints could have been made out against him.

Dr. Nathaniel Saltonstall's mother was descended from Governor Leverett, for whom he named a son, who has been and is distinguished in the senate of the state, and at the bar of Massachusetts. While his elder brothers were royalists, Doctor Saltonstall was a whig. Colonel Saltonstall commanded a regiment in the county of Essex, at the commencement of hostilities. He had been an officer in the war of 1755, and was the most popular man in the county of Essex; and at that time was high sheriff of the county. He was a whig at heart, but he had eaten his majesty's bread, and his honor would not admit him to draw his sword against his king. This was a feeling that influenced many at that agonizing period. Col. Saltonstall died in England, at an advanced age, not many years ago.

The subject of this notice was a man of property and lived in a very hospitable and gentlemanly style in his beloved Haverhill; which is situated on the left bank of the Merrimack, about twenty miles from the mouth of that river. He was a skilful and humane physician, respected by all, and endeared to the poor by his charitable disposition. He was a man of talents and learning, with fine manners.

He married a Miss White, of an ancient family in that place, and found in her a woman of great good sense. She gave to his household a high character for taste and elegance, and for the courtesies of life:

men may be great with inferior wives, but no man ever could entertain his friends as he could wish without the assistance of a woman of intelligence and discretion. Doctor Saltonstall died in May, 1816, in the 69th year of his age: The inhabitants mourned his loss as they would that of a father, for he was the friend of all, and had not an enemy among them.

Dr. Benjamin Shattuck was born at Littleton, in the county of Middlesex, Mass., on the 11th day of November, 1742. He was the son of Stephen Shattuck, a man of no ordinary powers of body and mind; a warm patriot, who, after he was turned of sixty years of age, shouldered his gun, and marched to Concord on the 19th of April, 1775, to share in the danger of that eventful day.

His grandfather was the Rev. Benjamin Shattuck, the first settled minister of the town of Littleton, who was graduated at Harvard College with the class of 1709, and was held in high estimation as a good sound divine of the old New England school. He married a grand daughter of the celebrated John Sherman, who on coming from England, was for some time an assistant to George Phillips, the first minister at Watertown.

From Massachusetts he went to Connecticut, and there acted in the capacity of a magistrate; but, when Mr. Phillips died, the flock at Watertown earnestly requested him to return to his first love, and he obeyed the call. Sherman was not only a divine of the first "gifts and graces," but also a profound metaphysician, and was exceeded by few in the country as a mathematician. He published an almanack for several years in succession, the first work of the kind in New England, and often went to Cambridge to deliver lectures upon philosophical subjects. He was not only in advance of the times in which he lived in the sciences, but his literary acquirements were equal to his other attainments. He calculated eclipses, fixed the latitude and longitude of places, drew up codes of laws, all with equal facility, and at the same time preached to admiration.

His name may be mentioned as a proof that a family does not much retard the progress of the learned, for he had six children by one wife, and twenty by another, and they were among the best educated of the land, and their descendants have, in a great measure, inherited their taste and talents. Roger Sherman, a Judge of the highest courts in Connecticut, and one of the signers of the declaration of independence, was a great grandson of the minister at Watertown. The clergy, who are always respected in an enlightened community, were in the early days of our history the great men in every concern; and to them we are much indebted for the institutions of piety and learning which abound in our country. They gave their children a good education, and considered it the best patrimony they could bestow. This fixed the permanent principles of a free government, which is for ages to hold its empire over a mighty people.

Dr. Shattuck was prepared to enter college in his native place, by Dummer Rogers, son of the clergyman at Littleton. While at Cambridge, Shattuck was considered a young man of a good capacity, a hard student, with an original cast of thought which sometimes, to common observers, appeared like eccentricity It was then a period remarkable for boldness of thinking, and freedom in the expression of liberal opinions on great national questions. The spirit of liberty has often been first invoked in the groves of learning. The sacred flame which was soon to burn through the land and warm every breast, was frequently seen at that time to flash and brighten in the halls of Harvard Among those whose observations are remembered by the few surviving students of that time, Dr. Shattuck holds a distinguished rank. In questions of philosophy as well as of government, he was one of the pioneers in liberal discussion. On leaving college in 1765, he went to reside at Groton, to pursue the study of surgery and medicine with Dr. Prescott, an eminent physician, a man of great urbanity, and popular, not only in his profession, but as a judge of probate for the county of Middlesex. From Groton he went to Templeton, in the county of Worcester, to commence practice. The practitioner of the present day, with

all the lights of the last half century about him, can hardly understand how much his predecessors suffered for want of books, instruments and all the facilities which are at the command of the modern physician and surgeon; but their sagacity, careful watchings, perseverance and tact, often more than supplied the place of books and systems. Nature is generally communicative and kind to those devoted to her laws and suggestions, and not unfrequently her simple inspirations are more efficacious than abstruse theories however ingenious. Disease has often yielded to the anxious watcher and careful nurse, when science, proud of her knowledge might have prescribed in vain.

The place which Dr. Shattuck chose for the field of his exertions, was a new settlement, with but few inhabitants. The population increased but slowly in the new corporations until after the peace of 1763. Then Indian warfare was no longer to be dreaded, and the hardy sons of the colonies made rapid strides in cultivating the soil, to which the children of the forest had given up all claim, and had abandoned in their peaceful wanderings. Dr. Shattuck thought, and his visions were more than realized, that by the time his children had grown up, there would be a comparatively dense population around him. With these hopes his professional duties began. The life of a physician who has business, and with it entertains a high sense of his responsibility, is always an arduous one; but few can imagine the severity of his labors, who maintains a considerable celebrity in a new and thinly settled country.

For twenty-four years Dr. Shattuck continued his labors in the county of Worcester and the neighboring counties, until his strength sunk under his efforts. It is seldom that any constitution is proof against such severe duties, continued for any length of time. He died of a pulmonary complaint in the year 1794. His mind continued bright and active until the last moments of his life. He reasoned and judged upon his own case with the calmness of one not interested in the event, and named to his medical friends with prescient accuracy the number of hours the mortal machine would by the common course of nature continue its functions. Dr. Shattuck died at that time of life when the faculties of men reach their highest point, when opinions have been tested by experiment, and original thoughts are arranged and incorporated with settled axioms.

Those who lived with him and were the best judges of his talents and acquirements, uniformly agree that no physician at that time was more acute in discovering the seat and causes of a disease than Dr. Shattuck. To quick discernment was added a patience in investigating all the circumstances relating to the subject under consideration, which naturally led to correct views and happy results.

His knowledge was considerable, but his wisdom was superior to his knowledge. He knew much of the thoughts of other men, but was governed by a system formed from his own. He hailed with delight the works of Cullen and other distinguished lights in his profession, but received their opinions as intellectual food for digestion, rather than as absolute guides of his own practice. While he was systematic in his course of examining, reasoning, judging and acting, he was not, like many, wedded to systems and theories; but subjected them to an enlightened supervision and examination. With his reputation it is not singular that he was often consulted by his professional brethren in stubborn cases, and his judgment was considered as the "ultima ratio medici" for their patients. There were several physicians about him highly respectable in their day and generation, who were on most friendly terms with him, and who, years after he was gone, bore testimony to the soundness of his judgment and the success of his practice. Drs. Foxcroft, Atherton and Frink were among the number; all men of distinction in their profession.

His death was deeply lamented by the whole community to which he was known; but this loss was more poignantly felt by his townsmen, the people of Templeton. He had settled with them by invitation, had lived in their affection and confidence for nearly a quarter of a century, and

had identified himself with their joys and sorrows. At his funeral all classes crowded around his bier to pay the last sad and mournful tribute of respect to their physician and friend. The pious pastor of the flock poured out his heart in an honest eulogy, in commemoration of his virtues, and spoke of the "sense, skill and philanthropy" of their departed physician and friend. This was said in the presence of those who knew the deceased, and knew too that the words flowed in truth and sincerity: such praises from the mouth of discriminating affection, have a lasting unction in them, and are sweet in the remembrance of ages, when the cold stone and the proud entablature are defaced or forgotten.

Soon after Dr. Shattuck settled in Templeton he married Lucy Barron, the daughter of a brave Provincial officer, who fell in Johnson's Fight, as the memorable battle of the 8th of September, 1755, was called. She was a woman precisely fitted for her situation, endowed with hereditary and constitutional firmness. She was an honor to her husband, and a blessing to her children through her life, which was, happily for the latter, protracted till within a few years past. She was left with six children at the decease of her husband, two of whom soon followed him, and the youngest is now a distinguished physician in full practice in the city of Boston.

Stephen Sewall, son of Nicholas Sewall, was born at a little village called Newton, about two miles from York in the State of Maine, March 24th, 1734. His father was a tanner, and in such narrow circumstances, with a family of ten children of whom this son was the youngest, that he was not able to gratify his early inclination to learning, but put him to the joiner's trade. On coming of age, he followed that business till he had acquired means to pay for instruction in classical studies. In the course of about a year he fitted for college, where he pursued his literary career with ardor and success. After receiving his degree in 1761, he remained a resident graduate, and supported himself by taking the charge of the Grammar School in Cambridge. In this year Harvard College followed the example of the English Universities in publishing a volume of gratulatory poems on the accession of his Majesty George III. to the throne; and to the "Pietas et Gratulatio Collegii Cantabrigiensis apud Nov-Anglos," Mr. Sewall furnished more than any other contributor; and all his pieces discovered a fine poetical genius and correct classical taste.*

The place of Hebrew Instructer in the College, having become vacant by the resignation of Mr. Judah Monis, who had sustained the office for about forty years. This aged incumbent was a Jew of Algiers. Becoming a convert to the Christian religion, and publicly baptized at Cambridge in 1722, he was appointed to teach a language, which, though he understood perfectly as a grammarian and philologist, he was not happy in enabling others to understand. He retained, moreover, a great fondness for Rabbinical lore, and his criticisms were so abstruse, and his conversation and manners so uncourteous, that he did not conciliate the respect of his pupils, and attendance on his teaching was considered as a disgusting requisition. Mr. Sewall, being appointed his successor, undertook the task of recovering the Hebrew from the contempt into which it had sunk,—and was successful. The students who attended him, were pleased with the affability of his demeanor, admired the extent of his knowledge, and listened to his instructions with a zeal to profit by them.

In 1763 he published a Hebrew Grammar, divested of the Masoretic points, and reduced to principles which were exceedingly simple and intelligible. This so facilitated the acquisitions of the students, that it became very popular, and increased the reputation of the author and of his teaching.

Thomas Hancock, Esq., of Boston, who deceased August 1st, 1764, left one thousand pounds for founding a Professorship of Hebrew and the Oriental Languages in Harvard College; and Mr. Sewall was the unrivalled candidate; indeed he could

* They were, No. III. page 7, Latin Hexameter verses; No. V. p. 13, An Ode in English; No XII. p. 42, Latin verses; No. XIV. p. 52, Latin Sapphic; No. XV. p. 57, An Elegy in Greek; No XV p 58. An Ode in Greek; and No. XXXIII p. 75, Another Latin Sapphic.

have no competitor. He was inaugurated June 1st, 1765, and continued in office above twenty years.

He studied daily the Holy Scriptures in the original Hebrew, and aimed to ascertain the true reading and sense by exploring it through all the oriental languages and dialects, and in the most ancient versions.

His lectures were models of English composition, and evinced an intimate and extensive knowledge of sacred literature. He introduced into them discussions and remarks upon Jewish antiquities, customs, and manners, which rendered them exceedingly interesting as well as instructive. Of this the dissertations which he was prevailed on to publish "On the Schekinah," and "on the overthrow of Sodom and Gomorrah," are samples.

His readiness in communicating instruction engaged the attention of his pupils, and the suavity of his manners won their affectionate attachment; and, indeed, his mild and compassionate nature and his artless simplicity endeared him in an uncommon degree to all who had the pleasure of being acquainted with him:—but his meekness and unassuming modesty in some cases produced a diffidence that kept him too much in obscurity to be so useful as he might have been to society at large, and so distinguished as he was qualified and deserved to be.

He was a firm believer in divine revelation and in the Christian religion; made an early profession of his faith; became a member of the church in Cambridge, and for seven years filled the office of deacon.

With fervent piety toward God and faith in the Lord Jesus Christ, he united charity toward all his fellow men.

Liberal and Catholic in his own opinions, he respected those of others although they differed from his, and honored their attainments and praised their virtues.—Richly endowed with the wisdom which is from above, which is peaceable, gentle, easy to be entreated, full of mercy and good fruits, without partiality and without hypocrisy: and adorned with all Christian graces, his faith wrought by love, purified the heart and overcame the world.

He married the daughter of the first Dr. Wigglesworth. Their only child died in infancy and Mrs. Sewall deceased a year or two before he left the professorship. After that event he led a very retired life.

In 1777, he was honored with a seat in the House of Representatives of the Commonwealth of Massachusetts, by the election of the town of Cambridge.

He was an original member of the American Academy of Arts and Sciences,—his name being among those on whom was conferred the act of Incorporation in 1780; and he contributed to the volume of memoirs a series of observations on the variations of the magnetic needle.

After a long and gradual decay, he deceased on Monday, July 23d, 1804, in the 71st year of his age.

Besides the publications already mentioned, he was the author of the following: "Oratio funebris in obitum D. Edvardi Holyoke," 1769; "Oration on the death of Professor Winthrop," 1779; "Carmina Sacra, Latine Græceque," 1791, and a translation in Latin Hexameter of the first book of Dr. Young's Night Thoughts.

He left in manuscript, a treatise "on the quantity of the Greek vowels," ascertained by the authority of more than fifty Greek poets, and reduced to rules illustrated by numerous well selected examples; a "Chaldee and Hebrew Lexicon;"—and had completed 446 pages of a "Greek and English Lexicon." These with the original copies of his Lectures, fairly written, are deposited in the archives of Harvard University.

William Smith, the historian of New-York, was the son of an eminent lawyer of the same name, and born in the city of New-York on the 25th of June, 1728. At school he was an extraordinary proficient and when sufficiently instructed was sent to Yale College where he was graduated A. B. and afterwards A. M. at an early age. He distinguished himself by his proficiency in a knowledge of the Greek and Roman classics, and made great advances in the Hebrew: his object seems to have been, to obtain a mastery in the study of the sacred writings to which he was greatly devoted and to which he yielded an entire belief. After seve-

ral years thus appropriated he returned to his native city where he studied the law with great diligence and afterwards engaged in the pursuit practically and to a great extent. In 1763, he was created judge of the Supreme court and was afterwards chief justice. He was subsequently a member of his majesty's council in 1769 where his attendance was regular, his integrity unquestioned, and his loyalty firm to the king; and when the lowering clouds caused by the stamp act began to spread over the continent, he saw the danger likely to result from the measure, and drew up a plan of union of all his majesty's colonies. Upon the increase of the troubles incident to the commencement of the American revolution, under the administration of Tryon, Mr. Smith repaired to his country seat at Haverstraw, about forty miles from New York. He was not long there before he was summoned, 3d of June, 1777, to attend the council of safety at Kingston, and being introduced before them he was asked whether he considered himself a subject of the Independent states of America? to which he replied that he did not conceive himself discharged from his oaths of fidelity to the crown: upon which an order was immediately made by the board, on the 7th of June, ordering him to be confined within the manor of Livingston, where he remained until he was sent to New-York, by a flag, under the superintendence of Colonel Burr, by order of Washington.

Mr. Smith remained at New-York till the evacuation of the city by the king's troops, and then departed for England with Sir Guy Carleton, the commander-in-chief. He continued abroad until he was appointed chief justice of Canada in 1786 which office he held to the period of his death in December, 1793. He was married to a Miss Janet Livingston the daughter of James Livingston, Esq. a merchant of New-York. By her he had a numerous family.

His History of New-York first made its appearance in quarto, London, 1757. It embraced the History of the state down to the close of Van Dam's administration in 1732. This work has been often reprinted both in Europe and in the United States. A public service of no small value was recently performed by the publication of a continuation of Smith's history down to the appointment of Colden in 1762. This portion of the work is also from the MS. account drawn up by the author of the former part and has been pronounced equally interesting: its authenticity as the MS. of Smith is uncontradicted; and the New York Historical Society through their committee, Dr. Hosack, John Delafield and Dr. Francis, have conferred no small benefit on the state by securing so valuable a document for public use, from an oblivion which might otherwise have been its fate. This new, augmented and corrected edition of Chief Justice Smith's history, appeared in 2 vols. 8vo. under the direction of the Historical Society, in 1830.

Samuel Sewall, late chief justice of the Commonwealth of Massachusetts, was born at Boston, in December, 1757. He was descended from that Mr. Sewall who came to this country at an early period of our history, and settled at Newbury, in the county of Essex. His family, from its numerous branches, has produced many distinguished lawyers, judges and statesmen.

The subject of this sketch gave early proofs of talents, industry, and firmness of character. On leaving Harvard College, in 1777, he entered the office of Francis Dana, Esq. of Cambridge, afterwards chief justice of the Commonwealth, then a distinguished lawyer, who had been in full practice at that place.

The war was at that time raging, and great fears were entertained of the ultimate success of the struggle for independence, and of course, for the future destinies of the country. From some letters he wrote at that period, it is fully seen how much he was distressed for his country's weal; but he endeavored, as much as possible, to conceal his fears and to dispel his anxieties by a close application to his books.

He began the study of the law, considering it a science, and labored to make himself master of its principles. There was no necessity for haste in his course, and he went to work with extensive views, and a settled determination first to under-

stand the philosophical structure of the common law; to separate that which grew from local feelings and interests, national necessities and maxims of common sense, and to combine for application and use, when he should come to the bar, all that was excellent and perfect in the system. At this time the laws of nations were much discussed, and every young man of talents, in the profession of the law, was anxious to be acquainted with the principles of this moral and political code. Instead of confining himself to the few standard authors on the laws of nations, such as Puffendorff, Vattel and others, who had then written on this subject, he made himself master of the civil law, and the ecclesiastical canons, the general polity of different ages and nations of the world, and from this cause more than any other, he became eminent as a commercial lawyer.

Naturally of a delicate and ardent temperament he could not entirely lose his fears for his future prospects, but even in his most assiduous pursuits the obstacles to distinction and success appeared to him numerous and formidable. He imagined at times, that he wanted voice, courage, readiness and many other qualifications necessary to make a great advocate. On this subject he held a correspondence with several of his learned and experienced friends, who, knowing the powers of his mind, fully and explicitly expressed to him the certainty they felt of his being equal to any task in his profession; but this sincere, yet flattering opinion of his talents did not at all times keep him from the most gloomy forebodings.

I have procured the copies of several letters written to him while a student at law, by his maternal grandfather, Edmund Quincy, Esq. a gentleman of classical education, and much esteemed for his piety, learning, discrimination and sound sense in the business of life.

These copies were taken from a book kept by Mr. Quincy, and came to my hands from Mrs. Donnison, his grand daughter. The book was in possession of her, and she took some of his papers at his decease, and among others this. These letters give a just view of the times in which they were written, and discover an extensive knowledge of the character and duties of a lawyer. Sewall's connection with such people, and the early bias such connections gave to his mind, can be traced in every situation in which he was afterwards placed. This only adds another proof to the many on record of the advantages to be derived from the counsel and protection of the wise and good, at our entrance into busy and active life.

Having finished his course of reading with Judge Dana, he settled in the town of Marblehead, in the county of Essex. This is a commercial county, having an extensive seaboard and containing many thriving maritime towns.

As soon as business revived after the war, the active people in Essex were early engaged in extensive trade. Out of this commerce grew numerous contracts, which furnished new questions, and brought into use and notice the attainments of Sewall as a commercial lawyer, and gave him opportunities to display to advantage the acuteness and strength of his intellect. In all these discussions on maritime affairs, he was so conspicuous and learned, that the most intelligent classes of merchants were anxious that he should represent their interests in Congress, and after much entreaty he was prevailed upon to accept a seat in that body. Although there is no memorable specimen of his eloquence or ability on record in their annals, yet those who were his colleagues at that time, and other members of Congress, acknowledged him as the first commercial lawyer among them. He was chosen to represent his district, first in the year 1797, and was elected the second time. He had previously been in our state legislature, where he was distinguished for doing good, and still more so, for preventing evil. The people were running wild upon the subject of making laws—Every thing was to be cheap, easy and familiar. The law was to be brought to every man's comprehension; all technicalities were to be removed, and the profession proscribed as useless. The mildness and modesty united with the force of argument that he exhibited on these subjects, opened the eyes of many honest and

fair minded men, who had been deluded by false and specious arguments, and they were brought to think and act rightly by the information which he gave, and the pains that he bestowed on the questions as they arose.

In the year 1800, he was put on the bench of the Supreme Judicial Court of this Commonwealth. This appointment gave great pleasure to the profession and to all commercial men. He continued associate judge until Judge Parsons died, in 1813, when he was raised to the seat of chief justice, which office he filled with honor to himself and to the Commonwealth until the time of his decease.

Judge Sewall was a high minded and proud spirited man, of quick feelings and correct principles. He had much of that readiness of perception, warmth of soul and richness of imagination, which, when combined with strong powers of reasoning, constitute genius. In his performances as an advocate, he was always learned and ingenious, and sometimes so impressive and eloquent as not only to convince but to charm his audience. He never studied to be eloquent, but when a subject interested him he was eloquent without knowing it, or without making the least effort to be impressive or pathetic.

As a judge he was upright, firm, grave and impartial, always rising with his subject, and he showed if it were *weighty*, that he never felt it to be burthensome, as some little minds do, when they attempt what is beyond their strength. His memory was tenacious, his method admirable, and his patience in labor exemplary. He was modest, but never shrunk from the discharge of his duty, from fear of any person or event. There are times in the professional course of a judge, in which proud men make their claims and exactions with a pertinacity which is not easily put down, and with a boldness, and sometimes an impudence, which cannot be easily resisted, but he knew his duty and maintained his rights against every attempt, and from every quarter, however mighty his assailant.

In his courtesy to the bar he was always the gentleman, and did every thing that was proper in his office to promote justice, harmony and good fellowship among them. If he had a fault as a judge it was sometimes permitting his feelings to enter into a cause, as he did, whenever he saw oppression and injustice, running a successful course against unsuspecting honesty and credulity. It will not be denied that at moments he lost the coolness and composure of the magistrate in the virtuous indignation of the man. It is extremely difficult for a man of feeling, to sit calmly and patiently and witness the attacks of heartlessness and fraud upon thoughtless and harmless ignorance and imbecility. In such cases he was easily disturbed and grew restive, but he was fully sensible of this disposition, and did every thing in his power to discipline his feelings and correct this propensity. In his charges to the jury he was luminous, fair, full and satisfactory, and they retired with a clear view of their duties, and a proper disposition to discharge them, for he always was careful to urge them to look at the subject before them without prejudice or partiality.

In his place of residence, he made great exertions to keep up a spirit of sociability and good fellowship, and entered into rational amusements with great cheerfulness.

I have known him after the labors of the day on the bench, in Salem, ride to Marblehead and officiate as master of ceremonies at the assembly preserving the most perfect order and diffusing delight among the gay, spirited and beautiful votaries of the dance. His presence gave dignity to the amusement, for there is nothing which so tempers and regulates the exuberance of youthful spirits as to find those mingling with them whose characters and standing in society, sanction pleasure or business by participating in it.

Youth shrinks from old age and looks forward to grey hairs with dismay, because we so often see old age churlish and unwilling to enjoy or to promote enjoyment. Life is short and every duty should be discharged with alacrity, and every rational delight seized without delay. That we should look on the bounties of Providence with a disposition to enjoy, is demanded by nature, and approved by reason and religion

An assembly in a town sufficiently large to form a circle of people of intelligence and respectability, is, when well regulated, a high school for manners, and with manners are intimately blended moral and social duties.

There are stiff and grave men who are offended that the dignity of the judge should ever be relaxed in the social amenity of the gentleman.

This prudery, which was current a few years since, is rapidly diminishing among us, and those precise rules of respect and form, behind which grave and solemn ignorance and cautious imbecility entrench themselves, are of late broken down. True dignity is now supported by purity of principle and strength of mind. The age of grave and reverend ignorance is over, and the imposition of gravity of face, of dignity of wig, and of conventicle tones is gone forever.

The spirit of enthusiasm which often animated Sewall's breast, was conveyed by his earnest and eloquent manner to others. When his feelings, as they sometimes did, mingled strongly with his reasonings, all the electricity of his soul shot along the veins of every juryman upon the seat. There are numerous instances of his power over a jury, within the recollection of contemporaries, one of which is well remembered.

In the year 1807, a young lady of Haverhill, in the county of Essex, was riding in a chaise in a narrow road, and meeting an ox team, whose driver was carelessly sitting on the spire of the wagon, being apprehensive of danger, she turned out of the path as far as she could and called on the wagoner to be careful, but the churl, neither regarding her situation nor her sex, in the least, drove straightway on, without moving to the right hand or to the left, and overset the chaise, and with other injuries, broke the young lady's arm. By the advice of her friends she commenced a suit against him for damages, but before the action came on for trial she was married, and then the action of course nonsuited, there being no legal plaintiff. The defendant, delighted at his accidental advantage, took out an execution for costs and had it served without delay or delicacy. The husband and wife then joined in an action for the same injury. Sewall sat in the cause on trial. The defendant's counsel among other things urged, that an ox team, being slow and heavy, had in law, and certainly in reason, a better right to the middle of the road than so light a carriage as a chaise, and that she should have been on the look out and found a place to have given the teamster the road. The judge during the whole defence labored with considerable effort to restrain his feelings. The plaintiff's reply occupied but a few moments, but the whole atrocity of the case was urged with great force and precision.

When the arguments were closed the judge rose with a forced calmness, but as he went on relating the facts and giving the law of the highway, he gradually grew warm, pathetic and eloquent. He stated to the jury that the whole impression of exclusive privileges was wrong. That no wagon, stage or vehicle, no matter by whom owned or driven, had any exclusive rights in our common highway, and that a handcart-man had a claim to half of the road if he wanted it in dragging his cart. He told the jury that there were no prerogatives of this sort in our free country, and no one should take airs of superiority. The road was made by a tax on the people, and every traveller had equal rights. Neither the government of the Commonwealth nor the United States had here any highway. The main roads belonged to the several counties, towns and to private and public incorporations under restrictions. He dwelt upon the negligence of the teamster, and his want of feeling; and the dismay, injury and distress of the female with her fractured limb, were so minutely pictured to the jury that the whole scene rose to view and sunk as deeply upon their minds as if described by the exact, poetic, and feeling pen of Cowper. The jury were sensible men, most of them husbands and fathers, they caught the spirit of a virtuous resentment against such brutal conduct, and after consulting a few minutes, brought in a verdict to the extent of damage stated in the writ. The report of the trial soon spread abroad, and the stage drivers, wagoners and indeed the

whole population of Essex, were able to repeat much of the judge's charge, and their conduct was regulated according to the rules he gave to the jury. The good effects of that trial have been felt in that county until this time. The traveller there finds an accommodating disposition, but much of this politeness was originally produced by this trial. In all matters of honor Judge Sewall supported the side of good feelings, with the spirit of chivalry. These things are mentioned to show his disposition, and not as proofs of genius or ability in his office, though they might be adduced as evidence of a delicate and elevated mind.

When Parsons died, Sewall was made chief justice, and the appointment gave entire satisfaction, but such was his native and unconquerable modesty, that he was constantly contemplating the great talents of his predecessor, and thinking how hard it was for any one to fill his place, without even glancing in his mind, at his own rare qualifications for the office. Sewall seemed at all times to feel that, like Hercules, he was bearing up with strained sinews, and with extraordinary exertion a weight which the massy and towering frame of Atlas sustained as a natural burthen.

Sewall was not only a profound judge, but a popular chief justice in every part of the Commonwealth. His associates in office were anxious for his health, and did all they could to diminish his labors, and to continue his usefulness, but his constitution was impaired by great efforts in the discharge of his duties, and he died suddenly at Wiscasset, when on a circuit, on the eighth day of June, 1814. The gentlemen of the bar as a tribute of respect and affection, erected at that place a monument to his memory.

Phillip Schuyler, a Major General in the American Army, was born at Albany in 1731. His family were respectable and opulent, and his education was liberal for the age in which he lived. In the war of 1755, he was an officer and served with the provincial troops until 1759—when Wolfe fell in taking Quebec. After the repose given to the colonies by the treaty of 1763, he returned to the quiet of domestic life, with the high respect of the provincial and British officers. On the breaking out of the war 1775, only two days after the battle of Bunker-hill, he was appointed a major general in the American army, and was directed to take charge of the Northern forces, raised from New York and New-England to secure the Lakes and to penetrate into Canada,—but sickness prevented him from discharging this great duty, and the command devolved upon the gallant General Montgomery. His prowess, and his misfortunes are detailed elsewhere. After he had recovered, and the ill fortunes of the campaign were known, General Schuyler was assidious on the frontier, and did all that a wise and brave man could do, to keep the Indians in order and to prevent predatory incursions. He was not the first general of whom the country expected more than he, or any one, could do. The New-England people had so often bled and fought on the frontiers, and particularly at Ticonderoga, that they clamored when they heard of St. Clair's defeat. The blame was put on Schuyler, but without the slightest foundation. He had done all that mortal could have done, with his means; but these murmurs had their effects on Congress, and Schuyler was superseded by General Gates. Schuyler met the crisis as a great man should. His conduct on this occasion was above all praise;—it was not tainted by any mark of resentment nor indignation. With the utmost complacency, but with deep feeling, he delivered his papers and gave up the command to Gates, with these remarks:—"Sir, I have done all that could be done, as far as the means were in my power, to injure the enemy, and to inspire confidence in the soldiers of our army, and I flatter myself, with some success; but the palm of victory is denied me, and it is left to you, general, to reap the fruits of my labor. I will not fail, however, to second your views; and my devotion to my country, will cause me with alacrity to obey your orders." He had performed his duty to the utmost extent; for he had been in the forest and felled the tree, broken up the roads, and thrown a thousand obstacles in the way of the enemy. But these

facts were then unknown to New-England, who had not made particular inquiry, but who, like the mother country, placed all things on success. After the conquest of General Burgoyne, General Schuyler took the British officers and their friends to his hospitable mansion, and treated them as his friends, and tried to make them forget their situation. Lady Harriet Ackland, the Baroness of Reidesel, and the Lady Balcarras, spoke of General Schuyler, as one born to support the dignity of an officer of distinction. Burgoyne himself, the proud minion of his monarch, apologized to Schuyler, for burning his splendid house a few days before his capture, and intimated that he could not have any idea that it belonged to an officer of his rank and character. The reply was as piquant as gallant.—"Make no excuse, my dear general, for this trifling incident, the loss is more than compensated by the honor of meeting you at my table." Burgoyne, always tasteful, said, afterwards, that my Lord Chesterfield could not have surpassed this —and, indeed, it had in it the essence of courtesy and keenness.

History shows us but few instances of patriotism that will compare with Schuyler's conduct. Epaminondas, deprived of the supreme command by the jealousy of the politicians of his city, marched to victory as a private soldier: he lived in an age of the greatest heroism; and Skrzynecki of the Poles, removed by the folly of his countrymen, drew his sword in the ranks as a private soldier; but Schuyler was bred in British pride of rank, when no such examples had even existed; but he had the magnanimity to make a precedent for the good of his country. If he had clamored and raved, as a little man would have done, he had so many friends that confusion would have been produced in the army, and Burgoyne might have come on triumphantly to the city of Albany.

At the close of the war, as well as during the contest, General Schuyler was held in the highest reverence and admiration by all the officers and soldiers of the army, and by none more than by the New England troops. The Rhode Island brigade, then under the command of Major Allen, presented him a most affectionate address, which, if in existence as a document, is out of the reach of the writer of this short sketch, but the response of General Schuyler was found in his own hand writing among the papers of Major Allen, in the possession of his son, and directed "to Captain Allen, and the other gentlemen of the Rhode-Island corps, present." The original has this endorsement upon it. "Received at Saratoga, 16th of Dec. 1783."

Saratoga, Dec. 16th, 1783.

Gentlemen: The great goodness of your hearts, has induced you to overrate the small services I have been able to render you; most sincerely do I wish, they had been in any degree proportionate to your merits, or to my inclinations. The polite and sentimental manner in which you have been pleased to convey your acknowledgments, is another instance of that urbanity which you have so constantly and invariably evinced to be happily possessed of, and which has afforded me a satisfaction, too sensibly felt by the heart, to be adequately conveyed by words.

To those sentiments of gratitude and esteem, which pervade me with regard to you, as a part of that gallant, persevering, and suffering band of Americans, to whom under heaven, we are so immediately indebted for the inestimable blessings of peace, liberty, and independence—others of a private nature are superadded, arising from the contemplation of the attentions I have received, from the pleasures which have resulted from the social virtues which you cherish, and which have justly acquired you the esteem, and rendered you dear to all the vicinity.

Those wishes which you so warmly express for my prosperity, honor, and happiness, I implore the Divine Being to realize on each of you: may heaven impress the hearts of your fellow citizens with a proper and a generous sense of your sufferings and your services—May they never suffer a thorn to spring in your future path of life; and permit me to assure you, that I shall most readily and most cheerfully seek for, and improve, every occasion to serve your

and to evince the friendship, the esteem, and regard, with which my heart is penetrated.

I am, gentlemen, affectionately, and very sincerely, your obliged and obedient servant,

PH. SCHUYLER.

To Captain Allen, and the gentlemen of the Rhode Island regiment.

The war was closed, and the army was breaking up; the memory of the past was crowding on the souls of the brave, who had fought their country's battles, and the visions of the future were then so gloomy, that there was a solemnity and honesty in every thing that was said. The Rhode-Island brigade was a highly respectable corps of men, and were in the command of as gallant an officer as could be found in the service. This respect for the character of General Schuyler had pervaded the whole army from Washington to the humblest soldier. Never was there a man who had so entirely laid down all prejudice; and all were anxious to make amends for the early jealousies of a few. Brooks commended him as a soldier, and Wigglesworth considered him as a scholar; and all knew him to be a patriot. This was enough for New England. The beauties of social intercourse in the American army, and the effort of mind upon mind during the awful struggle for freedom, will never be known; the day has gone for recording them. The great points of the drama of the revolution are and will be preserved; but the interesting under plots and by-play, if we may use such an expression, have passed away with the actors and the audience.

After the war had closed, General Schuyler was an active patriot, and labored in the Halls of Congress, and every where for the good of the country, without any narrow or selfish views. He was a member of Congress under the old confederation, and was one of those who early saw that that form of government was not sufficiently energetic for the exigencies of a great people. And he was a firm supporter of the Constitution of the United States, and acted in concert with all the great spirits of the time, in obtaining something as a free and gaine for the nation, that would develope the character of the people, and the resources of the country. He was twice elected a Senator of the United States, and served his country faithfully in that office. Into that august body he carried the principles of a patriot, the wisdom of a statesman, and the manners of a gentleman. He acted as a legislator in his own commonwealth, as well as in the United States government, and was a prominent man in making many good and wholesome laws.

He died Nov. 18, 1804, near Albany, and in the 73d year of his age—much lamented by all who knew him. The time must come, when we shall not complain of the scanty annals of one so deserving of his country's gratitude—for we understand that the papers of General Schuyler are now in the hands of one who is capable of doing justice to the subject, as he has done for the Constitution and laws of his country.

WILLIAM SHALER, who died a short time since at Havana, was a man of too much merit to pass away with only a slight tribute to his memory. He deserves an ample page in the history of his country.

He was born at Bridgeport, in the state of Connecticut, in the year 1773, of very respectable parents. He had the misfortune to lose his mother when he was only eight years of age, and when about twelve, his father died of apoplexy, leaving the subject of this memoir a destitute orphan child, master of his own actions. From this period until he was twenty, he had no instruction but that which he gained incidentally among his associates. The early impressions made on his mind by the precepts of his excellent mother, seemed now to become more vivid, and he began to feel a deep sense of his want of mental cultivation, which induced him to set about teaching himself. The French revolution had taken place, and he became warmly attached to the cause, and commenced learning the French language, and studying the history of that wonderful people, and he soon read their philosophical works with the same enthusiasm in which many of them were written.

In 1794, then only twenty-years of age, Mr. Shaler left this country for

Europe, and remained abroad in mercantile pursuits for twelve years. During this time he made great progress in acquiring the language of modern Europe, having also gained a very good knowledge of the Greek and Latin. The writer of this sketch saw a very excellent Greek grammar which Mr. Shaler had compiled for his own use. On one of these voyages before his return to the United States, he translated Malina's Civil History of Chili, from the Italian, which was subsequently published in this country and in England, together with the natural history of the same, by another translator. There are no other versions of the work in our language. On his return to this country, he travelled for several years, and became acquainted with the history, geography and statistics of the United States, and had formed a general acquaintance with many of the most distinguished men in most of the states in the Union. His company was much sought, for he was ever ready in conversation, and his information was laid up in systematic order. On one of his tours to Washington, Mr. Shaler was introduced to Mr. Madison, as a gentleman to whom the country had been indebted for much correct information while he was in foreign countries. At this time it was difficult to get correct information from South America, and it was indispensable that an agent should be sent to several parts of that country, and Mr. Madison appointed Mr. Shaler to this mission. He was precisely fitted for this important embassy, for besides his general information, the Spanish language was very familiar to him, and he had accustomed himself to every hardship. He was absent on this mission about four years, and during this time kept our government apprised of all the events in these struggling republics, then unacknowledged by any nation as such. On his return, Mr. Madison sent him to Europe, and attached him to the commission appointed for the purpose of treating with Great Britain for peace. After the treaty was effected, Mr. Madison appointed Mr. Shaler a commissioner to treat of peace with Algiers, and eventually as consul-general to the states of Barbary. No public functionary ever sustained himself better than William Shaler. He kept a peace with Algiers for the long period of fourteen years, and as the same time raised and maintained the national credit there, and put it upon a footing of respect and dignity, which had never been achieved by any other foreign agent in that barbarous land. During the same period Great Britain, Spain and France had been continually engaged in quarrels with the Algerine government. The former, notwithstanding the chastisement of Algiers by Lord Exmouth, was grossly insulted in 1824; and after sustaining a war of six months, at an immense expense in equipping and sending out a powerful expedition, concluded a peace by abandoning all the questions in dispute. Spain, after suffering a *quasi* war, waged by the Algerines against her commerce, on the most preposterous pretexts, during a course of years, finally concluded a peace in 1827, by the payment of three hundred thousand dollars. France, after a series of insults and vexations, which ought never to have been borne for a day, was involved in a war with those pirates the same year, and was compelled to equip the greatest armament that probably ever sailed from the shores of Europe for their castigation, and the vindication of national honor. Mr. Shaler was highly respected by the consuls of other nations and by these nations themselves. He was called upon frequently to interpose between the Dey and the European consuls residing in Algiers. The services he rendered Great Britain were such that Lord Exmouth, in 1816, wrote Mr. Consul Shaler a letter of thanks, offering him a pecuniary compensation also, of a large amount; but this was not accepted, for he had discharged a duty only; one that he thought was morally binding or a high-minded man, though not laid down in any code of international law.

In 1826, Mr. Shaler published his sketches of Algiers. This book was highly complimented by French writers and particularly in the "Revue Encyclopedique" at Paris. This work contains a faithful record of Algerine affairs to 1824, and is just to Mr. Shaler, in showing the superiority of his conduct over that of other agents in Algiers. From these

sketches the French learned the best method of attacking tha city of Algiers with success: and they followed the directions most minutely. Shaler's book made all Europe ashamed, that those pirates, so feeble in themselves, should have vexed the Mediterranean sea so long, and exacted tribute from the most powerful nations, while the United States with an infant navy, had refused to pay them for peace, and repeatedly chastised their insolence; and it was agreed on all hands, that our agent among the Barbary powers deserved a good share of the glory awarded to our republic. So deeply impressed was the king of Naples with the energy and firmness, as well as generosity of the American consul general, that he ordered a letter to be written to him by his prime minister for the services that he had rendered Christendom at large, and his people in particular.

Mr. Shaler received two letters from Governor Clinton, one in 1826, and the other in 1827, of the most complimentary character for his services abroad. In 1819, Mr. Shaler began to reflect that it would be wise in him to think of honor less and of property more, and asked the president of the United States to appoint him consul to Havana, that he might put by something for his old age. This was agreed to without hesitation, for no other man could urge such claims for the office.

On his voyage to Cuba he was shipwrecked, and by great exertion got to one of the English West India Islands. The governor of the island was acquainted with the services which Mr. Shaler had rendered the British government, and at once ordered a ship of war to take the consul to Havana. This was a deserved tribute of respect and one deeply felt by the receiver of it. Since he accepted the office he has visited his native land every summer, and enjoyed a rural retreat in his beloved Connecticut, and was making preparations, when the cholera reached Havana, for a visit to us this coming summer; but he was destined to be a victim to this scourge of the human race.

There was such a modesty about Mr. Shaler, that his merits were not so extensively known as they should have been; but those who had the good fortune to know him, were of one opinion in regard to the extent of his acquirements.

In 1825, the American Philosophical Society elected him a member, and received from him sound and excellent communications.

In 1828, Princeton College gave him the honorary degree of master of arts, and did herself credit by enrolling him among her distinguished alumni.

When the first Literary Convention was held in the city of New-York, in the year 1830, it being made known to that body that Mr. Shaler was in the city, he was forthwith elected a member by them and took his seat, and there was no man among them who had made education so much a subject of thought as Mr. Shaler, for he had visited numerous institutions of learning in every part of the world; and had also made deep researches into oriental literature, the mother of all modern knowledge.

In person, Mr. Shaler was above the ordinary height. His countenance was one of great gravity, and full of thought. At times there was something like melancholy in it—something that seemed to say, even to those who knew him well—*that there had been some blow upon his heart.* His voice was deep-toned and manly; but, at the same time, more flexible than a strong man commonly possesses; this was in some measure owing to his acquaintance with so many languages, and his frequent opportunities to speak them. Mr. Shaler was not only a learned man but a deep reasoner; he took nothing upon the credit of another that he could examine himself, and he brought all his strength to every subject he investigated. He was not selfish in his learning. The author of this humble tribute to his memory has often been indebted to him for facts that required no small research to attain, and for opinions that only a mature and vigorous mind could form.

He has probably left many manuscripts of importance, which, it is to be hoped, have fallen into proper hands to secure his fame and his country's honor.

JOHN STARK may be ranked among that hardy and valuable race, that may be called the founders of the American republic. He was born at Londonderry, then a frontier town in New Hampshire, on the twenty-eighth of August, (old style,) 1728. He was a yeoman, the son of a yeoman, one of those emigrants who had then lately come from Ireland, and had brought with them industrious habits, with the linen-spinning-wheel, and that now indispensable vegetable —the potatoe. If a few hills of potatoes might have been *found* in the gardens of the *curious* before that time, they had not been cultivated as food for man or beast in New England, until 1719, when they were brought into use at Londonderry. Hunting was then a part of the employment of the enterprising backwoodsman, and Stark, when quite a young strapper, on one of these hunting expeditions, was taken by a party of Indians. He evinced great bravery on this occasion, but was carried into captivity and remained until redeemed by the state of Massachusetts. He was now acquainted with the wilderness, and often acted as guide to the remote wilds of New Hampshire. In 1756, Stark being known as a young man of much promise, was appointed a lieutenant in a company of rangers, commanded by Captain Robert Rogers, who was afterwards so famous as Major Rogers, in the corps of rangers. This company was in the campaign of 1755, which terminated so successfully, near Lake George. The next year this company was again on the march to Fort Edward, and scoured the country from that place to Ticonderoga and Crown Point. In the winter of 1757, the rangers had a rash, bloody battle, near Lake George, Rogers and the other officers were wounded, and Stark conducted the retreat. It was indeed a momorable one, as it was in the dead of winter. For these services he was promoted to a captaincy, with the approbation of every officer and soldier on the frontiers. In the attack on Ticonderoga, in June, 1758, the rangers were in requisition, and Stark behaved with sagacity and courage. In this action fell the young and gallant Lord Howe, whose death was deeply lamented by the whole army. Between him and Captain Stark a strong friendship existed. Howe saw the merits of the ranger, and the young American's heart was susceptible of friendship as well as courage. The image of the gallant British officer was never absent from his mind; he cherished the recollection of that campaign to the close of his life. Captain Stark was with Lord Amherst at the reduction of Ticonderoga and Crown Point. He now retired from the army, and employed himself in the ordinary business of domestic life, until the difficulties began to thicken with the mother country. He was a whig from principle, and from the period that he left the army, in 1760, to the commencement of hostilities, he had been an apostle of liberty, with the brave yeomanry around him: and he was so well known through the state of New Hampshire, that in case of their being obliged to resort to arms, he was counted on as a leader. After the drama was opened at Lexington, he instantly, on hearing of the sad event, mounted his horse, and set off for the scene of action; hundreds of his neighbors followed him, under the impulses of liberty, without salutation or commands. These hardy patriots assembled near the battle ground, and put Stark at their head. He had no rival candidate; all eyes were turned to him. He was previously, on the seventeenth of June, in command of a large force; and General Ward soon considered him as a most valuable assistant. On the memorable seventeenth of June, his force was encamped about three miles north of Bunker-hill. Seeing from his position, that a fight was inevitable, without any orders, he marched for the ground; his men all desirious to be led on, and he reached the hill but a few minutes before the battle began. His conduct on this day has been a theme of praise. He fought until the American forces had exhausted their ammunition, and were nearly cut off by the British troops. His brave New Hampshire yeomen were, even at this crisis, unwilling to retreat; but his command was law to them, and they retired in good order across Charlestown-neck to Merlin-hill, to join the main body of the American army. After the evacua-

tion of Boston, he marched his regiment to New York, and was active in that campaign until May, when he was ordered to Canada. His forces were near Ticonderoga, when the declaration of independence was received. Every officer and soldier hailed the news with enthusiasm. He joined General Washington only a short time before the battle of Trenton, and led the van on that memorable morning, when the Hessians were surprised at Trenton, and marched with the commander-in-chief to Princeton.

In the early part of next spring he went to Exeter, to consult with Generals Sullivan and Poor, for the next campaign; but, finding that he had been superseded, he resigned his commission, and returned to his farm, but still made use of every exertion to induce his neighbors to enlist, and set the example by sending his son with them. Information soon arrived that St. Clair had retreated, and that Ticonderoga was taken. New Hampshire again flew to arms. The council of state sent for Stark; but he would not accept of any command which should be subject to any orders but his own. The troops would not stir an inch without him, and he was sent on with instructions to hang on the enemy, and harass his march. In August he arrived with his forces at Bennington; and Count Baum was detached from Burgoyne's army, to get cattle, horses and forage, and to destroy the small army from New Hampshire. In this they were deceived, as Stark, on the sixteenth of August, beat and captured the whole detachment. This was as decisive a victory as was gained during the war, and led to important consequences. The event destroyed the hopes of Burgoyne, and raised the drooping spirits of the northern army under Gates. Congress redeemed their ungenerous forgetfulness, and he was put in his proper place by that body, and the breach was healed. From that period he was one of the most active officers in the American army. Washington had the utmost confidence in him, and gave him most important commands, which he executed to the satisfaction of every one. He was at Newburg when an excitement was raised amongst the officers about to return to their home, almost naked and without pay; but he was true to himself and his cause, and assisted to allay the agitations then in camp, and preserve, unsullied, the reputation of the officers, who were near tarnishing the laurels they had so hardly won, by violent proceedings when the war had closed.

Stark retired again to his farm, and became a quiet, hospitable citizen. He enjoyed the respect and veneration of all who knew him. The traveller, as he passed, called on the veteran, and talked over the events of "those times which tried men's souls." In his conversation he was communicative, but never egotistical. He spoke of men, and of the measures of his government, with true republican freedom, but never despaired of his country. He wished and believed in her future greatness. He lived until the eighth of May, 1822, when he expired in the ninety-fourth year of his age, and was buried with the honors of war.

James Smith was born in Ireland. One remarkable peculiarity in him was, he would never give the date of his birth. He was one of Allison's scholars, studied law, and commenced his professional life on the frontiers of Pennsylvania. He was an early patriot and did much to raise his countrymen to arms. He was sent a delegate to the continental congress in 1776, and when independence was declared, he was amongst them. He was a member of Congress for several years and then withdrew from that body, and resumed his profession, in which he continued until the year 1800 when he withdrew from the bar and all professional practice, having been an active lawyer for sixty years. He died in 1806. Never lived there a man who had more innocent mirth and playful hours; he was never known to exceed the bounds of decency or truth, but he went upon the maxim that he who gives no day to vice may laugh an hour away.

Those who have been conversant with him say that he united the readiness and point of Foot, with the classical taste of Sheridan; that he spurred dullness, and whipped pride, but never assailed the timid, the humble, or the modest.

RICHARD STOCKTON, one of the signers of the Declaration of Independence, from New Jersey, was born near Princeton in 1730. He was descended from a long line of respectable ancestors, who had been lords of the soil for many years. Richard was educated at Nassau Hall, Princeton, and graduated in 1748. On leaving college, he studied law with David Ogden of New York. He rose rapidly, for he had friends and talents. In the course of a dozen years, he made his fortune, and desiring a relaxation he visited England, under the most happy auspices as a man of genius, connected with all the best interests of his country. He found no difficulty in free access to all the great men of the day, and no period has ever abounded in greater. It was when the sun of Chesterfield was setting, and that of Chatham was blazing in its noontide glory. Burke was then rising with light and life on the horizon, and Johnson was astounding the world with the classical productions of a great moralist, and Garrick was transcending all former histrionick fame. Such a mind, at such a time, so introduced, and so cherished, must have drank in knowledge, as water. He heard speeches and made them, from Edinburgh to Dublin, and was hailed every where as an extraordinary specimen of mind and manners from the new world. He not only saw men of the first talents in colleges, and deliberative assemblies, but in courts of equity and law. That such a mind, at such a time, moving under such circumstances, should become imbued with all that was great and glorious in thought, is not astonishing. He found then, that the great mass of those who directed the destinies of England, knew but little of their colonists on this side of the water, and that with all his explanations and reasonings, not much could be effected for us. He returned home, was admitted into the royal council of the province, and took an active part in all the business of the day. From thence he was placed on the supreme bench; but the evil hour was on the wing; the British patriots were dismissed from office, and Townsend, and North, and Gormaine were coming on. His heart was pained, but he made no hesitation; his country was first, and so he decided. In 1776, he was sent to the continental congress, and arrived there early enough to take a share in the debates, upon the subject of independence. He deliberated coolly, and decided firmly. In the fall of 1776, Mr. Stockton, in conjunction with George Clymer, was sent to inspect the northern army, which was then in a sad condition. He discharged his duty delicately but faithfully; these half military half civil commissions are of very dangerous handling; but these men satisfied all parties, a proof that they were wise. On his return home, he was taken prisoner, and treated most cruelly; cast into prison, and made to suffer like a felon. Congress interfered, and ordered Washington to take proper steps for his relief: this was done, but not until the deadly arrow was fixed in his vitals. He lingered along until February, 1781, and then expired, by an accumulation of disorders, brought to a crisis by his labours and his sufferings. In every walk of life, Mr. Stockton was conspicuous. He thought well, he spoke well, and he acted well. Science, taste, patriotism and religion, mourned his premature departure, and his friends of this day, should write out his memoirs with truth and fulness.

THOMAS STONE, a native of Maryland, was born in 1742, and became distinguished in political life in 1774. He was a lawyer, and a man of talent, and was sent to congress in 1775. He went into that body trammelled with instructions not to vote for Independence, unless the convention of the state agreed to it. However, the next year, this feeling was superseded by a strong view of the injuries the colonies had suffered; the members of Congress therefore had an opportunity to exercise their own judgements, and Mr. Stone and his colleagues were allowed to give their names in favour of a declaration of independence. Mr. Stone was a member of the committee, to prepare articles of confederation. There were some difficulties in this, but they were at length overcome. He left congress, and took a part in the councils of his own state; but returned to congress in 1783, and the next year was president pro tem. He then retired from political life, and resumed his profession as a lawyer, in which he became more and more distinguished; but he did not live long

to enjoy his fame, for he died the 5th of October, 1787, in the 45th year of his age.

INCREASE SUMNER, formerly governour of the commonwealth of Massachusetts, was born at Roxbury, in the county of Norfolk, then in the county of Suffolk, on the 27th day of November, 1746. His ancestors came from England, and settled in Dorchester, near Boston; the descendants from him are numerous. The father of the subject of this sketch, by whose name he was called, was a farmer, who by frugality, industry, and success in subduing his paternal acres, and in making rough places smooth, acquired considerable property. Never was there a man better calculated for the sturdy labours of a yeoman; of collossal size, and equal strength of muscle, kept in tone by regularity and good habits, he felt no obstacles in his course, nor shrunk at what others called fatigue. Instances of wonderful feats of strength performed by him in his youthful days, are remembered in his native place and the vicinity unto this time. He died much lamented, in 1774, having had eight children, only three of whom survived him, one son and two daughters. Elizabeth, the eldest, married Charles Cushing, Esq. of Boston, who was at the time of his marriage, sheriff of the county of Lincoln. Lucy married William Bowman, Esq. father of the late Captain Bowman, who behaved with much gallantry at the battle of Bridgewater, in the last war.

The first rudiments of learning were taught Sumner by the late Judge William Cushing, who was then preceptor of the publick grammar school in Roxbury. Under such a master the p. pil made such progress, as to induce the friends of the family to solicit the father to permit his son to pursue his studies at Harvard University. To gain this point was no easy task; the hardy yeoman considered that happiness and success in life were more certainly found in agricultural pursuits, than in any other course, but he yielded at length to the repeated entreaties of his son, and to those who indulged ardent hopes of the youth's future eminence, if he could obtain a classical education. All obstacles being surmounted, he entered the college in 1763, and his reputation while there, justified the predictions of his friends, for he graduated with a distinguished part in the commencement exercises of 1767. On leaving college, he took charge of the school at which he had received his preparatory education for admission to the University, and continued in this situation for two years. This employment, followed only for a few years, has in it many advantages. The loss of time to a young man is more than counterbalanced by acquiring accuracy in the classicks he has read, but probably in some measure forgotten, and in acquiring habits of attention, regularity, and method in business. He acquires also in teaching youths, some acquaintance with human nature in its spring-tide, before passions, prejudices and pursuits have had their influence upon the heart and mind. This knowledge is valuable to every one, but more particularly so to one who has to gain his support, and form his reputation in the profession of the law. At the close of his labours as an instructer, he entered the office of Samuel Quincy, an eminent barrister, the brother of Josiah Quincy, the patriot, statesman, and orator, who early fell a victim to his arduous exertions in the cause of freedom. In 1770, Sumner was admitted to the bar, and opened his office in Roxbury. The people found him intelligent, and worthy of confidence, and his business in the profession soon became important and lucrative. In the year 1776, a period of great difficulties, and fearful apprehensions, he was chosen a member of the General Court, and continued to represent his native town the three following years; until 1780, he was elected a senator for the county of Norfolk, which office he filled the two succeeding years, by the almost unanimous choice of his constituents. In the Convention of 1777, for agreeing on a form of government, he held a seat; but the part any one took in that body is now nearly forgotten, as no report of their proceedings was ever made; and the newspapers of that day mention the fact of a convention, only as they did ordinary occurrences in the legislature. He was also a member of the convention which was called for the same purpose in 1779, the first plan offered, not having been approved and adopted by the people. He was again sent

by his fellow citizens to aid in the deliberations of the Massachusetts convention of 1789, when the adoption of the Constitution of the United States was under discussion. The progress of civil liberty is a subject always dear to an enlightened community, and to every one who has known the blessings of freedom, and the value of laws. I shall therefore in this place give a short history of these Conventions, particularly as Judge Sumner was a member of all three of them, and was a conspicuous actor in all the political events of that interesting period. This account must be necessarily brief, and merely chronological. A full development of the motives of the actors, the principles they avowed, the manner of their deliberation, and the powers and learning displayed by them, on these several occasions, would be far beyond the scope of my work, were my materials and information equal to the task.

The members of the General Assembly of Massachusetts, and the Executive Council, being invested with powers at their election, in pursuance of a resolve of that body, passed the preceding political year, and sent to the people, met in Convention, and on the 6th of March, 1777, published, what is styled the doings of "the General Convention of the Commonwealth, or state of Massachusetts," declaring the same to be a free state. After a preamble, reciting all their grievances as colonies, and also reciting the Declaration of Independence, published July 4, 1776, the convention go on to say that "the ancient government of this colony being thus totally dissolved, and the people driven into a state of nature, it becomes their indispensable duty, and what self preservation requires, to declare themselves independent of Great Britain, and to establish such a constitution and form of civil government, as to them appears best calculated to promote their greatest possible happiness." This draft of a constitution, discovered some marks of talents and political information; but as a whole, is rather crude. It was sent to the people for their approbation, but it was instantly attacked by some of the most enlightened statesmen in the commonwealth, and was so thoroughly investigated by the people of Essex in their "Result" that it was rejected by most of those, who in their eagerness for having some constitution, had been friendly to it at first. This attempt having failed, the legislature passed a resolve to call a convention of delegates, whose sole business should be, to make a constitution for the commonwealth. This resolve was dated June 17, 1779. This delay in forming a constitution, gave the people two years and more to turn their thoughts to this subject, and get all the information which could be found. The convention met at Cambridge on the first day of September, 1779, but finding that several towns were not represented in that body, no precepts having been issued to them for a choice of delegates, the convention adjourned on the 7th of same month, to meet again at the same place on the 28th day of October following. At this time the convention came together, and continued in session until the 12th of November, and then adjourned to meet in Boston on the 5th of January, 1780; but on the 5th, when they were to set in Boston, the weather was so cold and stormy, and the snow so deep, that on the 27th of the same month, sixty members only were present, and not a single question beyond that of order or adjournment had been discussed. The next day, being tired of delay, the members present ordered that the business should proceed. This session was protracted until the 2d day of March, and then the convention adjourned, to meet in June. Previous to this adjournment, the convention resolved, "that the towns and plantations of this state have a right to choose other delegates, instead of the present members, to meet in the convention on the first Wednesday of June next, if they see fit." The convention met on the 7th of June, and continued in session until the 17th of the same month. The first draft of this constitution, as offered for discussion, was said to be much better than it was when altered to suit the majority of the convention. The first talents in the commonwealth were assembled on this occasion, and the debates were free, spirited and dignified; but there is not a trace of them left, except a few recollections in the decayed memories of the remaining statesmen who formed that body. The subject

of this sketch was also a member of the convention in Massachusetts, called for discussing the constitution for the general government, which had been sent to the several states for their adoption. This was a great question, "fraught with the fate of Rome." Profound lawyers, able politicians, and eloquent orators were sent by the people to this body, to deliberate and decide. The prosperity, the dignity, and strength of the nation were involved in it. To unite, was considered by all to be necessary, but on what terms, it was as difficult as important to settle. The rights of all must be secured, the honour and prosperity of the nation consulted, the interests of every section of the country were to be regarded; jarring claims were to be adjusted, and discordant feelings to be reconciled. All agreed that the old confederation was insufficient, but many were fearful of trusting too much power in the hands of Congress and the executive; they remembered the abuse of it in others, and dreaded the improper use of it even from those chosen by themselves. To remain separate and independent sovereignties, would be losing half the advantages of independence. In this conflict of feeling; this contrariety of opinion, every talent was in requisition.

These great assemblages of learned and wise men, three or four times in a century, are of use in many points of view. By them political errours and abuses are corrected; and by them too we form a pretty good scale to measure the intellectual capacities of leading men. "The errours of the market," to use a phrase of lord Bacon's, if we would be just, require a most watchful attention. In times of composure and quiet, many men of sterling merit are kept in the back ground, while others with half their powers are nursed and fondled into consequence. Matters of high importance to the community, involving first principles, discussed when there is no alarming exigency, offer a noble field for "the strife of mighty minds." It requires a powerful grasp of thought to discuss, and the learning of ages to illustrate, principles arising from moral and political relations, among a free and enlightened people. In such a rivalry, great men find their true elevation, and vanity and ignorance, if they be not incorrigible, are beaten into a just appreciation of their own worth. But if they do not find their level, the publick are set right in their opinions concerning individual merit, and therefore much is gained.

In June, 1782, Sumner was chosen a member of congress by the legislature of Massachusetts, in the room of Timothy Danielson, who resigned his seat; but subsequent events prevented his ever taking a seat in that body. In August, 1782, he was made associate judge of the supreme judicial court. This distinction was thought by all to be merited. He was young, but the publick had confidence in his integrity and ability, and the court considered him an acquisition. This appointment was made but a short time after the state constitution had gone into operation, and while the wounds of our country were green, and the sounds of war had not been hushed on our shores, and every thing was in an unsettled state. After the turbulence of the conflict had subsided, the loss of blood and treasure were severely felt. The paper currencies, which had been floated along by hope and credulity, and buoyed up by a spirit of patriotism, had sunk in value, until they were become "worthless as the weeds which rot on Lethe's wharf." All confidence had fled, and the war-worn soldier reluctantly yielded to the course of law, which took from him his last penny, and left his family outcasts and beggars. Most men are short-sighted, and are more affected by a present evil, than by any expected good, which may be long in coming. Symptoms of disaffection, and acts of turbulence were witnessed in every part of the commonwealth. The government were not prompt in avenging the insults offered to the majesty of the laws, but used palliatives, and acted with indecision, until rebellion was open and direct.

It is true that all that opposition, which arrayed itself in arms, was put down in one campaign; yet there was a still, secret, but by no means contemptible power, constantly in action, which it was difficult to reach, and almost impossible to destroy, for it breathed itself in accents short

of treason, and could not be silenced by fear, nor appeased by promises. One of the forms of this disaffection was shown in violent attacks on the common law, and on its supporters and agents. Voices were raised in various quarters against this proud system of common sense, and enlightened reason; and many, not contented with the right of softening its features, and adapting them to our manners, habits, and wishes by statutary provisions, were for abolishing this venerable structure at once. The judges at such a period must have had a hard and painful task to perform in discharging their duty. They, however, not only proceeded with discretion and humanity, but also with that fearlessness of consequences which discharges its duty, and leaves the event to heaven. To the firmness and independence of our judiciary, we are much indebted for the suppression of faction, and the confidence in one another, and in the government which soon followed these civil commotions. It is one strong proof of the wisdom of those who brought about the revolution, that they instantly constituted, as far as they could, an enlightened judiciary. Soon after the assumption of government in Massachusetts, which was administered according to the charter of William and Mary, upon the advice of the continental congress, an act was passed by the legislature, removing judicial and other officers. Peter Oliver, Foster Hutchinson, Edmund Trowbridge, William Cushing, and William Brown were removed, and John Adams, William Cushing, Jedediah Foster, Nathaniel Peasley Sargent, and James Sullivan were appointed judges of the supreme court. Sargent did not then accept, and Adams never took his seat as chief justice, but resigned in 1777. His political duties made it necessary for him to be so much from home, that he found it impossible to serve the commonwealth in this capacity. When Foster died, Sumner was appointed to fill his place, and continued on the bench until 1797, when he was called by the suffrages of his fellow citizens to the chair of chief magistrate. He was also elected the two following years, but did not act in that capacity the last year, for he was languishing on a bed of sickness at the meeting of the General Court, at the commencement of the political year, 1799; but being declared elected, and having accepted the trust, the legislature were anxious that he should be qualified before his decease, all hopes of his recovery being now given up; for they had some constitutional scruples about the right of the lieutenant governour to act as chief magistrate after the death of the governour, unless the oath of office had been previously administered. This ceremony took place in the bedchamber of the dying governour, who was willing to yield his last breath in the cause of his duty. He closed his life on the 7th day of June, 1799, in the fifty-third year of his age. No death, except Washington's, was ever more deeply deplored in Massachusetts. His honour, lieutenant governour Gill, as soon as his death was known to him, announced it to the legislature by the following message:

"*Gentlemen of the Senate and Gentlemen of the House of Representatives,*

"It is with the deepest sorrow that I communicate the melancholy event of the death of his late Excellency, Increase Sumner, Esq. which happened this day, about 11 o'clock. I am ready to attend to the executive business of the commonwealth, agreeably to the provision of the constitution; and shall also be ready to unite with you, in our respects to the remains of so worthy and valuable a chief magistrate."

A committee of the legislature was appointed to superintend the funeral obsequies of the deceased, which took place on the 12th of June, and were the most solemn and splendid ever witnessed in the commonwealth. All classes of citizens mingled their sympathies on this mournful occasion; and badges of respect for the memory of the deceased were generally worn for forty days. On the 17th, the lieutenant governour made his speech to the legislature, and mentioned the afflicting dispensation of Providence, in terms of affection and respect.

The answers from the senate and house of representatives, have much feeling and delicacy in them. The following is the answer of the House.

"We, the House of Representatives, sincerely sympathize with your honour, in the grief occasioned by the death of our late excellent chief magistrate. In adverting to this melancholy event, we cannot refrain from pausing, and dwelling for a moment on those qualities of the deceased, which so remarkably endeared him to his fellow citizens. In him were singularly united all those virtues which conciliate affection, and command respect. To an uncommon mildness of temper, and a disposition to promote the happiness of all, were joined unshaken firmness, and an unyielding sense of duty. His knowledge and discernment enabled, and his regard for the publick good prompted him to make the most judicious appointments. A correct and enlightened understanding, and a long and intimate acquaintance with the science of jurisprudence, qualified him to form just opinions of the expediency and constitutionality of such legislative acts as were submitted to his consideration. The whole tenor of his life evinced the sincerity of his piety, and his unaffected patriotism. Surely the death of such a magistrate, and at such a crisis, must be considered as a most serious publick calamity; and if the ardent prayers of his fellow citizens could have prolonged his most valuable life, long, very long, would he have continued a blessing, and an ornament to his country. Nor will his death be lamented by the citizens of this state alone; the friends of the federal government throughout the union, will deeply regret the loss of a man, who in discharging the important duties of his high office, gave, on every proper occasion, his decided support to the measures of that government."

The reverend clergy, and the fourth of July orators for that year, seemed to vie with each other in their testimonies of respect for his character; and the poets of the day bewailed his death in numerous elegies. But the language of grief is seldom clear and discriminating; the eulogy and the dirge are generally found to be better proofs of affection, than accurate details of incidents, or correct descriptions of genius or virtues. The heart may retain its warmth, while the hand is tracing the lineaments of character, but the sorrows of the soul must be assuaged before the portrait can be finished to the life.

In every situation in which he was called to act, and they were numerous, he was a popular man, without the least trait of a demagogue in his composition. His was "that popularity which follows, and not that which is run after." In the analysis of his mind there is not to be found one extrordinary power, nor one mean quality. It was the harmony of the mental and moral relations, that gave strength, elevation and loveliness to the whole of his character. In the cluster of his virtues there is no withered fruit; with him there was no reverse of the medal—all the traces on it were seen at once, full and fair. In weighing his merits there is no counterbalance of excellences and defects; no contrast of bright and dark spots, of steril wastes and luxuriant fields, of burning passions and chilling apathies, but one smooth and green surface of extended plain, of gradual risings, or gentle descents. In him, thought, feeling, intention, and action were constantly in unison. Such a man is rarely found; but when the community are sure of possessing a character like this, however dull the world may seem, and however regardless apparently it may be to its true interests generally, it never, in the worst of times, hesitates to lavish confidence, respect, and homage on those who are the staple of its intellectual pleasures, and the crown of its political honours. His early elevation to the bench is an unanswerable proof that he was held in high estimation for his good sense and honesty as a lawyer. As a judge, he was clear-headed, firm, and accessible, and discovered dignity and urbanity in all the forms of business, for he knew that to give a true effect to judicial proceedings, and legal opinions, it was necessary that the ministers of justice should have the courtesies of wisdom, as well as her stability, discrimination, and integrity. There are many things in our institutions, of which we do not justly appreciate the value while we enjoy them, for we have never known, or have forgotten what they cost those who went before us. The following extract from one of his charges to

the grand jury, will show how he felt and reasoned upon a subject of vital importance to the publick.

"There is but one subject more, gentlemen, that I shall call your attention to, and that is a subject of the highest importance to us as a people. I mean the support of schools and school-masters according to law. Our venerable ancestors were early impressed with a sense of the importance of education to the rising generation. No sooner had they got footing in this inhospitable land, even while struggling with poverty and want on the one hand and a savage foe on the other, than they laid the foundation for the proper education of their children, foreseeing that the prosperity of their then infant settlement depended upon it; and if a matter of such moment was neglected, their posterity would soon become as illiterate and uninformed as the natives they were contending with; and shall I presume that we, their posterity, will suffer an institution so wise—so important to society, to lie neglected? If such inhabitants did but consider the importance of education to the publick, as well as to their children, they would exert themselves to carry the laws relating thereto into full execution; for how can a republican government be maintained but by the learning, virtue, publick spirit, and knowledge of its citizens. If therefore you know of any towns in this county, which by law are obliged to support school masters, and are so lost to themselves and the rising generation as to neglect it, you have it in charge from the court to present them. These, with all other high crimes and misdemeanours done and committed within the body of this county, will employ your diligent attention and inquiry.

"What remains then, Gentlemen, to make us the happiest people on the globe, favoured as we are with the wisest and the freest constitutions of civil government; encircled as we are with the blessings of peace, health, and plenty; but that we carry into private life those principles of reverence for the Supreme Governour of the world; and that industry, publick spirit, frugality, and benevolence, which will not fail to ensure the continuance of those blessings. Let every one, then, in his station, cultivate those virtues, and we should soon find that crimes in society would become less in number and in magnitude: and that society was rapidly advancing to its highest state of perfection. Thus we shall have the satisfaction of reflecting that we have discharged our duty, by contributing all in our power to the general welfare, which is best promoted by the practice of that righteousness, which always did, and which always will exalt and dignify the character of a nation. We have the happiness to live in a country where our rights are fully understood, and freely enjoyed; and America furnishes one, among the few instances where the blessings of civil liberty, and the rights of mankind have been the *primary objects* of their political institutions; in which the rich and the poor are equally protected; where the weak are defended against the usurpations of the violent; where the rights of conscience are freely enjoyed; and where merit and abilities can be the only claim to the favour of the publick. May we not, then, pronounce that man destitute of the true principles of liberty, and unworthy the blessings of society, who does not at all times lend his aid to maintain and support a government, on the preservation and due administration of which depends his own political as well as private happiness. It is in vain to think of supporting a free government, unless it be by the virtue, publick spirit, and affection of its members. Governments of other descriptions may be supported by the intrigues of officers and magistrates, and by the terrour of arms, but that which owes its existence to the will of the people, must derive its support from the same source; hence it becomes the duty as well us the interests of every citizen to aid the magistrate in the faithful discharge of his office, without which the laws, or in other words the will of the great body of the people, cannot be carried into effect, without which the government will be but a name; a useless burden on the people."

He was taken from the bench almost against his consent, to be made chief magistrate. The country at that time, notwithstanding all the depredations upon our commerce, was prosperous; but the people were full

of apprehensions for the future. We were robbed of our property; but this was but a small part of the evil we suffered from the French revolution; the moral and political poison concocted and shed abroad by this crush of ancient systems was then extending to the core of every valuable institution in Europe and America. Thrones were shaken, and altars profaned, and "the spasms of infuriated man" were reaching the magick circle of domestick happiness, which, with other blessings, had in a good measure grown out of the Christian religion. At such a period, it was more than ever necessary to have at the head of the commonwealth a man, whose virtues in private life were unassailable, and whose general reputation placed him out of the reach of slander. Such a man was found in Increase Sumner—the most difficult of all men to oppose with success in such a population as that of Massachusetts. His political enemies could not say that he was light and versatile, for his whole character was of a sober and grave cast. He could not be objected to on account of age and infirmities, for he was then in the prime and vigour of life. The humble could not charge him with haughtiness and pride, for he was polite and accessible to all classes of his fellow citizens; and the proud could not hate him for his familiarity, for he never compromised or forgot his dignity in any place or circle. No man could say that he was ever hard-hearted and avaricious, for he had oppressed no one. The jealous could not charge him with ambition, for he made no effort for publick honours or offices. The bigot could not say that he was wanting in solemnity and religion, for he was a professor of religion from his youth upwards. The liberal could not say that he was a bigot, for his creed, and what was better, his life was full of kindness and forgiveness; and those who love to find fault without a cause, whenever they have an opportunity, might have exerted themselves in vain to have discovered any thing which could be considered an errour in "blood or judgement."

In his office of chief magistrate, he displayed the same carefcl attention to duty as he had done in other situations. He was not a military man by title or study, until he was made commander-in-chief, but reasoning as a wise man, he always considered the militia in a republican government "as the cheap defence of nations"—as the only efficient protection to a country extending over such an immense territory. Impressed with this belief, he was attentive to the military department, which had not been cherished with any particular fondness by any of his predecessors in office. He took salutary advice on this subject, and used his exertions, which were successful, in increasing the number of arsenals in the commonwealth, and in augmenting the munitions of war.

His administration commenced at a period when the elements of our political establishments were severely tested. There was no received standard of publick opinion for measures any more than for men. The idolaters of the old systems clamoured at the slightest innovation, and the innovators were pushing on with zeal to destroy the ancient landmarks. In this political effervescence he held an unwavering course. Believing that the general government was founded upon the best views of the dispositions of the people, and of the nature of their institutions, he heartily supported its policy, not thinking that a few mistakes gave him a right to complain of the course pursued. When others were fearful that the great political fabrick which had been reared amid the acclamations of the world, was about to crumble into dust, his faith in its permanency was unshaken. He saw in the confusion of conflicting opinions the progress of that intelligence and good sense which is the only rock of adamant on which a republick can safely be built. The republick of France had been erected in a feverish dream of liberty, on the sandy foundation of philosophical theories, without regard to the feelings, manners and habits of the people, and was at this moment sinking under the weight of military despotism. The fate of this republick seemed a warning voice to others, and fears were felt by good and wise men that we too were verging towards destruction. The coolness, and firmness of the chief magistrate, and his confidence in the general go-

vernment, did much to strengthen and support it. He was well acquainted with the illustrious individual who was at that time President of the United States, for he had been associated with him in politics, loved him as a friend, respected him as a statesman, and followed him in his track of glory with unequivocal confidence, and undisguised admiration.

Sumner always retained a love for the cultivation of the soil, and was a substantial practical farmer, who set an example of good husbandry to his neighbours. His lands were extensive, and he furnished employment to many labourers. This fondness for agriculture was not then, as it now is, generally cherished by the most distinguished characters of the commonwealth. Commerce, and the professions absorbed the whole time of those engaged in these pursuits; but within a few years past, merchants, lawyers, physicians, and divines have cultivated a taste for farming, and made great exertions to excite a spirit of industry and enterprise among the yeomen of our country. With us, a few years ago, it was scarcely thought a matter worthy the attention of a man of science and taste to attempt to make two blades of grass grow where only one grew before, or by new methods of feeding, to make a bullock grow from an ordinary to an uncommon size. This was left entirely to those whose every-day business it was to plough and to sow. Experience, as it was called, was among them the sole guide, and this term meant nothing more than a repetition of careless, unphilosophical methods of farming. Errours and prejudices held their course against all reasoning, until the scientifick and opulent broke the thraldom by successful experiments, repeated, promulgated and explained so often, that common sense, or rather common prejudice, could no longer resist the evidences in favour of a change. Sumner had always an unwavering confidence in the future prosperity of this country, but he knew it must be ensured by those means which required time, patience and sagacity to use; and had he lived until this day, he would have seen his expectations of agricultural improvements in some measure realized, his belief in the solidity of our national government confirmed, and would have rejoiced in the general diffusion of knowledge among all ranks of people. The patriot's bosom is always warm with ardent hopes for the prosperity of his country; "unborn ages crowd upon his soul," not with the gloomy forebodings of degeneracy and corruption, but with delightful visions of the advancement of knowledge, of the increase of pure morality, and of the happiness of man. It is neither wise nor brave to indulge in reveries of despair; and that man is either feeble, selfish, or vain, who imagines that when he dies all virtue and national prosperity will die with him. That often repeated ejaculation of the dying statesman, "Oh my country," is either a proof of the weakness of the human mind in the hour of dissolution, or a libel by their friends on the fame of the dead. It is a subject of as much rational pride to believe that we shall be the progenitors of a worthy race, who will honour their day and generation, as is the knowledge that we are lineally descended from a virtuous stock.

Sumner was married on the 30th of September, 1779, to a daughter of William Hyslop, Esq. of Brookline, formerly a distinguished merchant in Boston, and by her he had a son and two daughters, who are now living. Mrs. Sumner survived her husband ten years, and died in the year 1809, in Boston, whither she had removed from Roxbury in 1806.

His person was attractive and commanding—tall, stout, and muscular; his complexion and hair were light, and his eyes blue. His countenance was remarkable for composure and benignity, and was often lighted up with a smile of peculiar sweetness. Many a young practitioner at the bar has borne testimony to the pleasure and relief he felt, when he was addressing the court in fear and trembling, in catching the kind looks of Judge Sumner. They were looks of encouragement and protection, which never disappointed the youthful advocate. Such courtesies are remembered with gratitude and admiration, while the cold and severe gaze, and the sharp reply of authority, which perhaps blasted the early efforts of a delicate mind, are recollected with resentment and con-

temptt. This amenity of manners, which flowed from goodness of heart, was not occasional and rare with him, but constantly entered into every social relation, publick or private. It conciliated the affections of the people when he was young, and secured them through his life. His fellow citizens delighted to honour him while living, and sincerely mourned him when dead. Intellect, virtue, and urbanity united, form a spell which seldom fails to control the turbulent and malicious, and to charm the peaceable and the wise.

Epitaph on the monument of Governour Sumner; by the author of the foregoing memoir.

Here repose the remains of

INCREASE SUMNER.

[He was]

Born at Roxbury, November 27th, 1746,

[And]

Died at the same place, June 7th, 1799,

[In the 53d year of his age.]

He was for some time a practitioner at the bar;
And for fifteen years an Associate Judge of the Supreme Judicial Court;
Was thrice elected Governour of Massachusetts,
In which office he died

As a Lawyer, he was faithful and able:
As a Judge, patient, impartial, and decisive;
As a Chief Magistrate, accessible, frank, and independent.

In private life, he was affectionate and mild;
In publick life, he was dignified and firm.

Party feuds were allayed by the correctness of his conduct,
Calumny was silenced by the weight of his virtues;
And rancour softened by the amenity of his manners.

In the vigour of intellectual attainments
And in the midst of usefulness,
He was called by Divine Providence
To rest with his fathers:
And went down, to the chambers of Death,
In the full belief that the grave
Is the pathway to future existence.

As in life he secured the suffrages of the free,
And was blessed with the approbation of the wise,
So in death he was honoured by the tears of the patriotick,
And is held in sweet remembrance
By a discerning and affectionate people.

Discite virtutem ex hoc, verumque laborem

WILLIAM SYMMES, D. D., was born at Woburn, in the county of Middlesex, in the commonwealth of Massachusetts, in the year 1729. He was educated at Harvard College, and was distinguished for his good scholarship and honourable bearing. Up to his time, corporeal punishment was inflicted on the scholars in college, as at common schools. A tutor attempted it on him, he retreated to a corner and prepared for resistance. He was then a young man of great corporeal strength, and of an indomitable spirit. The tutor saw that it would be dangerous to proceed to blows, and desisted. The investigation of this matter by the enraged teacher, (for he was not to blame,) as was supposed, was the cause of abolishing the vile practice of flagellation within college walls. Mr. Symmes was, soon after his leaving college, appointed tutor himself, and became popular for his dignity of deportment, and his competency as a teacher. On quitting his office in college, he was ordained a pastor of the church in the north part of Andover, where he officiated for more than half a century; preaching during that whole time, either at home or with his neighbours, every Sunday but two, until within a month of his death. He was, at some period of his life, suspected of want of orthodoxy, because he doubted the correctness of some of the doctrines of Calvin, but those who knew him best, can bear testimony to the soundness of his faith, and to the purity of his life. In his day it was considered derogatory for a minister to preach the same sermon twice, in the same place. In 1804, he had by him over three thousand sermons, fully written out. At that time some of these productions were examined by one of his young friends, who averred that from a careful perusal of many of them, he never found a word carelessly written nor ignorantly spelled. He often sighed over the thought of so much labour, and remarked that it was a bad taste of the age, in religious instructions, to prefer quantity and novelty, to succinctness and excellence, for it had required an iron constitution, and constant industry to go through such a ten-fold herculean labour, as he had done. His delivery was plain, and solemn, but he never thought of the graces of elocution. He was a ripe and good classical scholar and deeply read in ancient and modern metaphysicks, as well as in history. In the annals of his own country, he was profound and minute. In the revolutionary war, he was a sturdy republican; one of those most scrupulously watchful of rulers, without party or selfish calculation. He measured the minds of men with wonderful precision, and entered into their motives as one acquainted with the world. He loved society, although his habits would not allow him to seek it, but he received his friends with the utmost cordiality, and conversed as one happy to see them, both to entertain them and to refresh himself. His temper was irascible, but he had broken it to the curb of prudence. Sometimes the fiery passions of the man, were seen mantling his cheek and flashing from his eye, but the spirit of the evangelist, after a burst or two of nature, threw a hallowed calm over his mind, and all the billows of passion were as still as those of the sea, rebuked by the Saviour of the world, when the disciples were in great fear of being swallowed up. From his profession, and habits of solitude, he communed more with himself, than men generally do, even the most pious. He conversed with the past, for there his earthly pleasures were, and entered into the future, for there were his hopes of heaven, which grew more placid as age stole upon him.

Ah! who can tell the triumphs of the mind
By truth illumined, and by taste refined?
When age has quenched the eye, and closed the ear,
Still, nerved for action in her native sphere,
Oft will she rise,—with searching glance pursue
Some long loved image vanished from her view,
Dart through the deep recesses of the past,
O'er dusky forms in chains of slumber cast
With giant grasp fling back the folds of night,
And snatch the faithless fugitive to light.

Dr. Symmes died in May, 1807, at his seat in Andover, deeply lamented by the wise and affectionate. He had a great horrour of the agonies of death, frequently saying, "that he was not afraid to be dead, but afraid to die." Heaven in kindness released him without a mortal pang.

BARON STEUBEN, the following notice of this distinguished military chieftain, was prepared by General North, who knew him well and loved him sincerely. It was published in the New York Commercial

Advertiser, in July 1833, and there can be no doubt of its being the most authentick account that has been given of the Baron.

"I am not certain in what part of Germany Baron Steuben was born, though I think it was Suabia. He was not a Prussian; for 'had I been born his subject,' said he, (speaking of the strong passions of his old master Frederick II.) I should have been sent to Spandau, for daring to demand a dismission from his service.'

"The baron had been in the family and friendship of Prince Henry, the king's brother, of whom he never spoke but with the greatest tenderness and affection. In an unfortunate campaign, of the seven years war, the prince incurred the displeasure of his inexorable brother. He was directed to retire from the field, his suite ordered to their different corps, or placed in situations which might make them feel the misfortune of being the friends of a man who had dared to displease, perhaps to disobey, the king. Steuben was sent into Silesia, to recruit, equip, and discipline, within a certain period, a corps, broken down by long and hard service. The pecuniary allowance for this object was totally inadequate; but in the Prussian service, who dared to say what was or was not possible to be performed? The regiment was marched complete, within the time prescribed, to head-quarters. The baron soon after received the appointment of aid-de-camp to the king, and was charged with the superintendence of the quarter-master-general's department. It was undoubtedly an excellent part of the Prussian system, that the different departments of the army, had each, a particular person near the monarch, intimate with all its concerns, to whom every officer of the corps could, on all occasions address himself; and on whom at any moment, for every kind of information relative to the branch of service with which the aid-de-camp was connected, the king could call. In this respectable situation he remained four years; why it was relinquished, I never knew—I never asked; for though some anecdotes of the king's conduct to his officers, which would make an American volunteer look wild, were told from time to time, there was a delicacy observed in speaking of that great man's faults, which marked the feelings of profound respect with which he was remembered by the baron. When the King of Prussia's death was announced, I saw a tear roll down the baron's cheek. Strong ties are broken when old soldiers weep! An American officer who had been a prisoner on Long Island, said to me that a German of rank had told him, that there was a jealousy of the baron's military fame. 'Jealous of me,' said the baron, 'the fellow was a fool—a motley fool, your Shakspeare would have called him.'

"There can, however, be no doubt of the consideration in which the military talents of the baron were held by the monarch. When General Lincoln, then Secretary for the Department of War, was directed by congress to apply to the different European courts for a transcript of their military codes, Mons. de Hertsburgh, Prime Minister of Prussia, answered that the instructions in question, had never been published, nor even transcribed, except for the use of the chiefs of the army; adding, that he was surprised at the request, as it was understood that Baron Steuben was in the service of the United States, who knew every thing relative to the Prussian code *au fond*. Whatever may have been the cause, the baron retired from Prussia and entered into the service of Prince Charles of Baden, who gave him the command of his troops; and some time afterwards, he was appointed or elected lieutenant general of one of the circles of the empire; a station rather honorary than lucrative. The troops of the circle were militia, and the duty at that time, little more than attending a periodical review. How changed, for many years has been the situation and duties of those unfortunate people! God help them, they have drank deep of the cup of affliction!

The baron's income from his military and ecclesiastical rank, for he was a chasroine, amounted to the value of five hundred and eighty guineas per annum. By whom he was made a dignitary of the church I have forgotten, but it is certain, that the King of Prussia bestowed church livings on his officers; nor would he,

I presume, have felt scruples of conscience, in assigning the whole revenues of the church militant to troops, in whose tacticks and weapons he had greater confidence than in the church spiritual, could the assignment have been effected without danger or disgrace. In a country where a coachman or a chief cook could be hired for ten or fifteen dollars per annum, and a suit of clothes; where many luxuries and all the necessaries of life were cheap in proportion, twenty-four or twenty-five hundred dollars per annum was a world of money.

The baron frequently passed his winters in Paris. There, in 1776, in the society of the Count de Vergennes, and the Prince de Monte Barre, minister for the war department, he met with Benjamin Franklin, our ambassador at the court of Versailles. Mr. Franklin, venerable in his appearance, high in reputation, and full of enthusiasm in the cause of his country, spoke with energy and with all the art of a politician, of the goodness of the cause, of the noble spirit of the people of the United States, of their ample means and well founded hopes; of the glory to him who should effectually assist in laying the foundation of a great empire; and of the gratitude, honours, and rewards which awaited the man who should give instruction in the military art to the brave but undisciplined army of the United States! The French ministers supported the arguments, and joined in all the wishes of the philosophick negotiator. 'It was undoubtedly the intention of the king, their master,' they said, 'to declare himself, as soon as circumstances would admit, the protector of this virtuous people, who had bravely taken arms against a haughty and imperious nation, whose ambition went not only to their subjugation, but to that of all Europe—that, though the moment had not yet arrived, in which the king could openly espouse the cause of the Americans, steps were about being taken to supply them with arms, and there could be no doubt of his favourable regard to him, who, by teaching the most effectual manner of using them, should render essential service to those oppressed people, struggling for liberty and independence.' The glory attendant on a successful achievement of this perilous adventure, was painted in such glowing colours, and so often presented to view by those masters in the art of colouring, that the baron, without entering into any kind of stipulation with Messrs. Franklin and Dean, immediately returned to Germany, resigned his places, and their emoluments, came back to France, and in the autumn of 1777, embarked for the United States on board a ship freighted ostensibly by private persons, but in fact by Louis XVI. with arms, clothing and munitions of war, and commanded by Captain Landais, a brave and experienced officer, who had sailed round the world with Mons. de Baugainville, and who for the service he therein performed to his nation, deserved a recompense, the benefits of which he yet might feel. Not long since, I passed the veteran in the street, and saw with pain that adverse gales still thwart his course.

The baron landed in December at Portsmouth, in New Hampshire, and immediately commenced his journey to York, in Pennsylvania, where congress then sat. I saw him for the first time at a ball, which the citizens of Lancaster gave him. He had been received in the most distinguished manner by congress, and was then on his way to meet General Washington. His reputation had preceded him, and those who yet remember his graceful entry, and carriage in a ball room, the splendour of his star and its accompaniments, can easily conceive the proud feelings of his countrymen, and of their fair wives and daughters. With honest Fluellen, they might have thanked God, that they had no reason to be ashamed of their countryman. The troops assembled at Valley Forge, were in want of every thing,—ill armed, worse fed, and confined to their huts by sickness, the want of clothes, and the severity of the winter! The baron, frequently afterwards declared, that no European army could have been kept together, under such dreadful deprivations. What must have been his feelings to have seen, as he passed with General Washington through the cantonment, the wretched, naked figures, (except a piece of dirty blanket,) ill hid, by half closed doors or open windows, and to hear at every turn, a mournful

cry of—no pay! no provisions! no clothes! His heart sickened at the scene, and well it might; God knows the misery was great!

"The spring opened; partial supplies were received, and the inspector general commenced his labours. Certainly, it was a bold attempt, without understanding a word of their language, to bring men, born free, and joined together to preserve their freedom, into strict subjection; to obey without a word, a look, the dictates of a master. That master, once their equal, or perhaps below them, in whatever might become a man! It was a bold attempt, which nothing but virtue, or high raised hopes of glory could have supported. At the first parade, the troops neither understanding the command, nor how to follow, in a changement to which they had not been accustomed, even with the instructer at their head, were getting fast into confusion. At this moment, captain, now Colonel Walker, then of the 4th New York regiment, advanced from his platoon, and offered his assistance to translate the barons orders, and interpret them to the troops.

"If, said the good baron, many years after, I had seen an angel from heaven, I should not have been more rejoiced. Perhaps there was not at that moment another officer (unless Hamilton excepted) in the army, who spoke French and English to be understood. Walker became his aid-de-camp and friend; they well deserved the friendship of each other. From the moment that instruction began, no time, no pains, no fatigue was thought too great in pursuit of the object. During the whole of every campaign, when the troops were to manœuvre, (and this was every fair day,) the baron rose at three o'clock, while his servant dressed his hair, he smoked, drank one cup of strong coffee, was on horseback at sunrise, and with or without his suite galloped to the parade. There was no waiting for a tardy aid-de-camp; and those who followed, wished they had not slept; nor was there need of chiding. The baron's look, when duty was neglected, was enough. It was a question, why our troops had not been put to the performance of the great manœuvre. I beg pardon for calling it great—but it was great *to us*. *We* had it not by intuition, nor was the country then filled with books compiled by oriental and by western sages, filled with every kind of knowledge, for all kinds of troops! How changed the times! To the question it was answered, 'that in fact, there was no time to learn the minutiæ. The troops must be prepared for instant combat; that on a field of battle, how to display or fold a column, or to change a front, was of more consequence, than how to stand, or turn, or throw the musket.' The business is to give our troops a relish for their trade, to make them feel a confidence in their own skill; besides, your officers, following the miserable British sergeant system, would think themselves degraded by an attention to the drill. But the time shall come when there will be a better mode of thinking. Then we will attend to the turning out the toes. This prophecy I remember, was literally fulfilled a year or two afterwards. 'Do you see that, sir,' said the baron, 'there is your colonel instructing that awkward recruit—I thank God for that!'

"Sir Henry Clinton marched from Philadelphia. Our troops quitted Valley Forge, and fought the British at Monmouth. Colonel Hamilton said to me, that he had never known nor conceived the value of discipline, until that day. The baron had no command in the line, for although congress had, in addition to his appointment of inspector general, given him the rank of major general, the benefits expected to be received from his knowledge and exertions, were of too much value to be confined to a single division of the army; besides which there was such an influx of Frenchmen, from the continent and from the islands, all demanding high rank and superiour command, that the American officers began to be disgusted, and to murmur loudly at being commanded by foreigners. The baron had received what had been given, without asking; and he wisely left it to time and future service to place him in his proper station. His assistance in forming the troops, and in reconnoitering the enemy on that day, in which service he narrowly escaped being taken, were acknowledged. His report to General Washington of the real situation of the

British, and of the column under the command of General Lee, induced that gentleman to say something in his defence, for which the baron thought it proper to ask an immediate explanation. It was given in a manner perfectly satisfactory. The truth was, General Lee had an exalted opinion of the British discipline and valour, and had very little confidence in our troops which he had to oppose them. He was unfortunate, and probably in fault; and undoubtedly he looked on the friends of the commander-in-chief, whom Lee, it was believed, had intrigued to supplant, as his enemies, and as anxious to take advantage of his misfortune. General Washington, in confirming the sentence of the court, acted probably with as much propriety and purity of mind as falls to the lot of human nature; but the decision, it has been thought, ought to have been other than it was. If Lee had misbehaved before the enemy, he deserved punishment much more severe. If his troops broke, and would not fight, he ought not to have been suspended.

"As soon as the troops became for a time stationary, the inspector general commenced a system of police, which pervaded every branch of the service, and by which millions were saved every campaign, after it was in operation. Two honourable and worthy men, Judge Peters and Colonel Pickering, both of them at that time members of the board of war, well knew to what a ruinous extent the spoil and waste of tents, arms, ammunition, and accoutrements, was carried, and they have not forgotten the service rendered by the baron to our then poor country. 'Sir,' said one of these respectable patriots, not three months since, (it was Judge Peters,) 'his services could not be estimated at their value. I knew him well, and take him altogether, a better man did not exist.' The organization of the Department of Inspection produced a new state of things, the benefit of which was felt by all. To whom, to how few can I appeal! The masters and the labourers, in that great work of independence, have passed away; and with them how great a portion of the virtue and the talents of our country! To what a strictness were we held when every article received must be brought forth and laid in view, and not a brush or picker, missing with impunity! In truth, long before the conclusion of the war, our army had arrived at the then highest point of military knowledge. Ambitious to excel, I have known the subalterns of a regiment, sell one-half their rations to the contractor that they might add to the comfort and appearance of their men. The adroitness, and above all, the silence with which manœuvres were performed, was remarked with astonishment by the officers of the French army. The Marquis la Val de Montmorency, a brigadier general, said to the baron, 'I admire the celerity and exactitude with which your men perform; but what I cannot conceive, is the profound silence with which they manœuvre!' 'I don't know, Mons, le Marquis, from whence the noise should come,' answered the baron, 'when even my brigadiers dare not open the mouth, but to repeat the order!' 'Ah! hah! Mons le Baron,' vociferated the Marquis, for he was perhaps the noisiest man in the French army; '*je vous comprend! je vous comprend!*'

"The French troops were excessively noisy in their evolutions and marches; and Mons. la Val was heard louder than the rest. On a subsequent occasion, (to show the high degree of expertness to which our army had arrived) when a violent storm had occasioned a grand exhibition to be postponed, the baron was asked by one of the allied generals, who with others had retired with him to his marquee, what manœuvres he had intended to perform. When, told with a studied nonchalance, as if this was the first moment he had thought of the matter—'Yes,' said the general, 'I have seen the last you mention, by the Prussians in Silesia,' but with an addition of some difficulty, which he explained; 'why, sir,' answered the baron, 'it is true; you do not expect that we are quite equal to the veteran army of the King of Prussia? No, general, that is expecting too much. *C'est vrai! c'est vrai! mais avec le temps—c'est vrai! avec le temps!*' said the baron, after his guest had retired, '*avec le temps!* I will let these French gentlemen know that *we* can do what

the Prussians can, and what their army cannot do. 'Get the order for the review,' said he to one of his aids-de-camp, 'set down and add to it, as I dictate, I will save those who have not been in Silesia the trouble of going there for instruction; Ver Planck's Point is much nearer—*Avec le temps!* the time is next week.' They came, chiefs and subalterns, on horseback and on foot; for their encampment was but a few miles distant. Every thing was done in the finest style, to their real or pretended admiration. Alas! when I think of times past, of that day, and look to that eminence on which General Washington's marquee was placed; in front of which, stood that great man, firm in the consciousness of virtue, surrounded by French nobles, and the chiefs of his own army. When I cast my eyes, now dim, but then lighted up, with soldierly ambition, hope and joy, along that lengthened line, my brothers all! endeared by ties made strong by full communion in many a joyous hour; in many an hour of penury and want, my heart sinks at the view. Who; how few of all that brilliant host is left! those few now tottering on the confines of the grave!

"General Gates had been defeated, his army dispersed; and the southern states were in the greatest danger of being conquered. General Green, in whom the commander-in-chief placed the fullest confidence, was ordered in 1780, to the southward; Baron Steuben accompanied him. General Green saw clearly, that Virginia was only to be defended in the Carolinas; that if the British forces in those states, could not be broken down, there was little to hope; the whole perhaps to the Potomac must fall. The opinions of the two generals coincided, and there was ample time, during the journey to Richmond, to mature the plans and system to be pursued. The baron was left in Virginia to collect whatever of men and means might be gathered, to form the troops, and at all risk of clamour, or dissatisfaction of the Virginians, to disfurnish their state for the moment, in the hope of securing its permanent safety. The success of our arms was an object very near the baron's heart. He had a personal friendship, and the highest respect for his general; and certainly he exerted himself to the utmost to fulfil his engagements with him, though he soon felt that he did his duty at the expense of his popularity. Nor is it to be wondered at, that feeling the dangerous situation of their state, the Virginians could not, with satisfaction see its resources daily lessening. Nor did the baron's zeal permit him, on every occasion to act with the mildness and caution, proper to be observed by military commanders, in the service of a republick, the laws of which, protect even an unworthy player, from punishment, except inflicted by their own tribunals. Men sufficient to form a regiment had, with great exertion, been collected; the corps was paraded, and on the point of marching to Carolina. A good looking man on horseback, with his servant, as he appeared, also well mounted, rode up, and introducing himself to the baron, informed him he had brought a recruit. I thank you, sir, said the baron, with all my heart, he has arrived in a happy moment. 'Where is he colonel?' for the man was a colonel in the militia. 'Here, sir,' ordering his boy to dismount. The baron's countenance altered; a sergeant was ordered to measure the lad, whose shoes when off, discovered something by which his height had been increased. The baron patted the child's head, with a hand trembling with rage, and asked him how old he was? He was very young, quite a child; 'sir,' said the baron, turning to him who brought him, 'you think me a rascal!'—'Oh, no baron, I don't;'—'then, sir, I think you are one, an infamous scoundrel, thus to attempt to cheat your country! Take off this fellows spurs, place him in the ranks, and tell General Green from me, Colonel Gaskins, that I have sent him a man able to serve, instead of an infant, whom he would have basely made his substitute. Go, my boy, carry the colonel's horses and spurs to his wife; make my respects to her, and tell her that her husband has gone to fight, as an honest citizen should, for the liberty of his country. By platoons! to the right wheel! forward! march!' Colonel Gaskins, fearing the consequences, let the man escape on the arrival of the regiment at Roanoke river.

Nor was he tardy in applying to Governour Jefferson for redress. The purity of the baron's motives could not be suspected, and his honest zeal was appreciated too highly by the Governour and Council, not to prevent any unpleasant results, attending this high-handed exertion of military power. When Arnold landed in Virginia and marched to Richmond, there were only a few militia and a troop of armed cavalry, mutinous for want of pay and clothing, to oppose him. An attempt was made at a pass near Richmond, which proved abortive. After destroying all kinds of property, publick and private, within his reach, he retreated. Phillips arrived with a reinforcement, took the command, and marched towards the capital. There was a show of resistance; a skirmishing at Petersburgh, but it amounted to nothing. The civil authorities had retired to Charlottesville, near the head of James river. The baron with his miserable force retreated to the point or fork, where the state artillery and other military apparatus had been carried, as to a place supposed to be out of danger of an attack. Simcoe, however, such was the difficulty of gaining intelligence of the enemy's movements, within a few hours of the notice of his approach being given, appeared with his cavalry on the spot, from which the last of the stores were removing to the other side of the river, and an aid-de-camp of the baron fell into the hands of the enemy.

"The British had passed to the vicinity of Williamsburgh. The Marquis de la Fayette arrived with troops from the northward; and the baron severely attacked by the fever of the country, and sick with vexation, retired to Albemarle county, where he remained fortunately in the society of two or three respectable neighbouring gentlemen, until he was informed by General Washington of his near approach to Virginia.

At the siege of York, the general gave him the command of a division of the army. It was during the baron's tour of duty in the trenches, that the negotiations respecting the capitulation, commenced. At the relieving hour the next morning, the Marquis de Lafayette approached with his division. The baron refused to be relieved, assigning as a reason, the etiquette in Europe, that as he had, during his guard, received the first overtures, it was a point of honour to remain on his post till the capitulation was signed or broken. The marquis applied to the commander-in-chief, but the baron with his troops remained in the trenches until the British flag was struck. The capture of Lord Cornwallis and his army, closed the campaign.

"The baron returned to the northward, and remained with the army, continually employed in perfecting their discipline, till the peace. He resided for some years in the city of New York, and died on the 28th of November, 1795, at Steuben, in Oneida county.

"These are but hasty and very incomplete sketches of the baron's military course, from 1778 to 1783. He undoubtedly did us infinite service; and his labours in the field and in preparing his regulations were very great. But it is upwards of thirty years since the war, and I have little accurate recollection of more than the elegant manners, the playful wit, and the kindness of heart which this excellent man possessed. General Washington was fully sensible of his deserving, and urged congress, on all proper occasions, in his behalf. In truth, considering our poverty, he was treated, as to money, with a commendable degree of liberality, and received from time to time, of good and bad, sums which some narrow-minded men in congress thought much too large. Elbridge Gerry (and I state it with pleasure) was always liberal. But what sum would have been too great for the baron, who searched for worthy objects, whose wants might be relieved? Never did a review pass without rewards to soldiers, whose arms and accoutrements were most conspicuous, for the attention paid to them. Never was his table unfurnished with guests, if furnished with provisions. Officers of the higher grades, men most prominent for their knowledge and attention to duty, were principally his guests; but the gentlemen of his family were desired to complete the list with others of inferiour rank: poor fellows, said he, they have field officers' stomachs, without their pay or rations. At York or Williamsburgh he sold such part of

his camp equipage brought from Europe, as was saleable. We are constantly feasted by the French, said he, without giving them a bit of *broatwerst*. I can stand it no longer, I will give one grand dinner to our allies, should I eat my soup with a wooden spoon for ever after.

"The baron had a full share of honourable pride. He could not bear to receive and not return. In thought and deed he was most liberal and most kind. On the eve of returning to the northward; I must go said he to a sick aid-de-camp. 'I must leave you, my son; but I leave you in a country, where we have found the door of every house wide open; where every female heart is full of tenderness and virtue. The instant you are able to quit this deleterous situation, there is my sulkey, and here a half what I have. God bless you, I can say no more.' Nor could he; the feelings of friends at such a moment, may possibly be conceived, but not expressed; a journey of three hundred miles was before him; his wealth was a single piece of gold! Are other instances necessary to prove the texture of his heart? how many are there written on my own. There is, I trust, a book, in which they, every one of his good deeds, are entered to the credit of his account with Heaven.

"At the disbandment of the revolutionary army, when inmates of the same tent or hut for seven long years were separating, never, perhaps, to see each other's face again, grasping each other's hand in silent agony; cut adrift without a hope; I saw his strong endeavours, if it were possible to throw some rays of sun-shine on the gloom; to mix some cordial with the bitter draught they drank; to go, they knew not whither. All recollection of the art to thrive by civil occupation lost, or to the youthful, never known; their hard-earned military knowledge worse than useless; a mark at which with their badge of brotherhood, to point the finger of suspicion—ignoble, vile suspicion! No more to pay obedience to command, to quaff the cup of joy, or lessen every grief, by sharing with a host of friends! to be cast out upon a world long since forgotten, each one to grope his solitary silent path; his sword and military cap the only reliques saved; all else overwhelmed and lost for ever! It was too bad. On that sad day, what soldier's heart was left unwrung! I saw it all, and its effects.

"To a stern old officer, a Lieutenant Colonel Cochran, on whose furrowed visage a tear until that day had never fallen, the baron said all that could be said to soften deep distress. 'For myself,' said Cochran, 'I care not, I can stand it; but my wife and daughters are in the garret of that wretched tavern. I know not where to carry them, nor have I means for their removal.'—'Come, my friend, let us go; I will pay my respects to Mrs. Cochran and your daughters, if you please;' and when he came away, he left hope with them, and all he had to give.

"A black man, with wounds not yet healed, wept on the wharf, for it was at Newburgh where these sad scenes were passing. There was a vessel in the stream, bound to the place where this poor soldier once had friends; he could not pay for a passage. Where found or borrowed, I knew not, but the baron soon returned. The negro hailed the sloop and cried, "God bless you, master baron, God Almighty bless you.'

"But why do I relate these scraps of his benevolence, when all who knew him, and were worthy, knew him as their friend? What good and honourable man, civil or military, before the cursed party times which murdered friendships, did not respect and love the baron? Who most? Those who knew him best.

"In the society of ladies, the baron appeared to be very happy; engaged in their amusements, and added by his wit and pleasantry to the delights of the evening. His sternness and stentorian voice was only seen and heard in the field. 'Oh!' said an old man, who had been a captain in the war, and then kept a publick house near Utica; 'oh! baron, how glad I am to see you in my house, but I used to be dreadfully afraid of you!'—'How so, captain!'—'You hallooed, and swore, and looked so dreadfully at me, once when my platoon was out of its place, that I almost melted into water!'—'Oh, fie done, fie captain;'—'it was bad, to be sure,' said the old man, 'but you did halloo tremendously!' It is true, he

was rough as the ocean in a storm, when great faults in discipline were committed; but if in the whirlwind of his passion, he had injured any one, the redress was ample. I recollect at a review at Morristown, a Lieutenant Gibbons, a brave and good officer, was arrested on the spot, and ordered in the rear, for a fault which, it appeared another had committed. At a proper moment, the commander of the regiment came forward, and informed the baron of Mr. Gibbon's innocence, and worth, and of his acute feelings under this unmerited disgrace. 'Desire Lieutenant Gibbons,' said the baron, 'to come in front of the troops.' 'Sir,' said he to him, 'the fault which was committed, by throwing the line into confusion, might in the presence of an enemy, have been fatal; and I arrested you. Your colonel has informed me, that you are in this instance blameless. I ask your pardon; return to your command, I would not do injustice to any, much less to one whose character is so respectable.' All this was said with his hat off, and the rain pouring on his reverend head! Was there an officer who saw this, unmoved with feelings of respect and affection? Not one, who had the feelings of a soldier. I have spoken, somewhere, of the difficulty the baron found in forming his book of regulations for the discipline of the army. It was indeed great. There were no books then from which a compilation could be made. Even to the close of the war, Rivington's shop afforded nothing better than Bland's Exercise, and Simmes' Military Guide. All was drawn from his recollections of the Prussian school; these to be arranged in French, translated into English by men not conversant with military phrase or evolutions; to sketch and re-sketch the plates and fit them for the engraver. The engraver! where to be found! and paper scarcely to be procured. None but those who lived in those days of poverty and dearth of every thing, can think a thousandth part of all the difficulties which were then encountered in every department.

"The baron, though never perfectly master of our language, made very few mistakes in speaking, except designedly, for pleasantry or for wit. I remember, that, dining at headquarters at N. Windsor, New York, Mrs. Washington asked him what amusements he had, now that peace was certain, and the business of his profession less pressing. 'I read and play chess, my lady,' said the baron, 'and yesterday I was invited to *go a-fishing*. It was understood to be a very fine amusement. I believe I sat in the boat two hours; it was very warm but I caught two fish.'—'Of what kind, baron.'—'Indeed, my lady, I do not recollect perfectly, but one of them was a whale.'—'A whale! baron! in the North River!'—'Yes, upon my word, a very fine whale, as that gentleman informed me; did you not tell me? was it not a whale, major?'—'An eel, baron. 'I beg your pardon, my lady; I am very much mistaken if that gentleman did not call it a whale, but it is of little consequence, I shall abandon the trade, notwithstanding the fine amusement it affords.'

"On another occasion, in the house of the respectable Mrs. Livingston, mother of the late chancellor; where virtue and talents, and modest manners always met a welcome, the baron was introduced to Miss Sheaffe, an amiable and interesting young lady, sister of the present British General Sheaffe. 'I am very happy,' said he, 'in the honour of meeting you, madamoiselle, at whatever risk, though I have, from my youth, been cautioned to guard myself against *mis-chief*;* but I never before thought her attractions were so powerful.'

"But it is time to quit these recollections to me most dear; to those who knew him not, perhaps of little worth. By the exertions of Colonel Hamilton, patronised by President Washington, and supported by some liberal and powerful men in congress, an annuity of two thousand five hundred dollars per annum for life, was given to the baron. He retired to Steuben, a tract of sixteen thousand acres, received under the administration and in unison with the wishes of Governor George Clinton, from the legislature of New York,

* The beauty of this pun, it will be conceived, consisted very much in the baron's having imparted to it the foreign accent, making Miss Sheaffe and *mischief* similar in sound.

where, in a convenient log house, he passed the last moments of his life He had parcelled out his land on very easy terms among twenty or thirty tenants, who afforded opportunities for the exercise of his philanthropy. Some hundreds of acres were given to his aids-de-camp and servants. Sixty acres of cleared land gave him wheat and ample nourishment for his stock.

"Except the agreeable society of a young gentleman, whose literary exhibitions when a boy, had attracted his notice and regard, who read to or with him—and now or then a stranger passing through, or a friend who went into the wilderness to see him, his time was passed in solitude. His farm and garden afforded some little amusement. He was fond of chess. But it was chiefly from his library, which was well stored, that he drew support against the tedium of a situation so very different from that in which the greatest part of his life had been passed. This state of inaction was undoubtedly unfriendly to his health, though there was no appearance of failure either in mind or body. They remained in full strength until the moment he was struck with an apoplexy, which in a few hours was fatal. Agreeably to his desire, often expressed, his remains were wrapped in his cloak, enclosed in a plain coffin, and placed in the earth, and 'without a stone to tell where it lies.' A few tenants and and servants, the young gentleman, his late companion, and one on whom for fifteen years his eye had never ceased to beam with kindness, followed in silence and tears. The commissioners of the town laid a road, a public road, near to his grave! They either knew not, or they could not feel. Walker, his first and his most worthy aid-de-camp, snatched the remains of his dear friend and master from their sacrilegious grasp, hid them in the forest, and gave a bounty to protect the hallowed wood from rude intrusion.

It may be further added, that a handsome tablet was erected more than twenty years ago, to the memory of Baron Steuben, by the author of the foregoing memoir. It was placed in the German Reformed Church in this city, of which the baron was a member. That church then stood in Nassau street, between Maiden lane and John street, and on which was substantially, if not literally, the following inscription:

Sacred to the Memory of

FRED. WILL. AUG. BARON STEUBEN,

A German.

Knight of the Order of Fidelity;
Aid-de-camp to Frederick the Great, King of Prussia;
Major General and Inspector General
In the Revolutionary War.

Esteemed, respected and supported by Washington,
He gave military skill and discipline
To the Citizen-Soldiers;
Who
(Fulfilling the decrees of Heaven,)
Achieved the Independence of the United States.

The highly polished manners of the Baron
Were graced
By the most noble feelings of the heart:
His hand, "open as day for melting charity,"
Closed only in the strong grasp of death.

This Memorial is inscribed
By an American,
ho had the honour to be his Aid-de-camp—
The happiness to be his friend.

Ob. 1795.

JAMES S. STRINGHAM, M. D., was born in the city of New York, of respectable parents, whose circumstances in life happily enabled them to furnish to their son the opportunities of a liberal education. He prosecuted his classical studies in Columbia College, and was graduated there in 1793. His habits and disposition inclined him to the theological profession; and, for some time after he had received his collegiate honour in the arts, he pursued a course of learning for the ministry. His health becoming delicate from an attack of hemoptysis, he relinquished with reluctance this intention. He now entered upon a course of medical education under the care of the late Dr. S. Bard, and Dr. David Hosack, and attended with exemplary diligence, for several years, to all the branches of medicine then taught by the Faculty of Physick in New York. He subsequently proceeded to Edinburgh, became a student in the university of that renowned capital, and in 1799 received there the degree of M. D.

Within a very short time after his return to his native city he was elected Professor of Chymistry in Columbia College, in the place of the learned and distinguished Dr. Mitchill, who had for many years filled that chair, and to whom we are indebted for the first introduction of the French nomenclature of chymistry in this country. Dr. Stringham, however, not satisfied with these exertions, and anxious for a more extended sphere of usefulness, now voluntarily prepared a course on legal medicine. His varied and classical erudition rendered this undertaking one peculiarly agreeable to him; and to the students who attended his lectures, it proved a source of gratification equally novel and instructive. The utility of the science was cheerfully acknowledged by all.

Having long laboured under an alarming organick disease of the heart, and finding his constitution materially impaired, Dr. Stringham resigned his office as professor of chymistry in Columbia College; but, upon the union of the Medical Faculty of that institution with the College of Physicians and Surgeons in 1813, he was induced to accept the professorship of medical jurisprudence. Yet this office became too oppressive, from the tenderness of his health; hopes which he had cherished, were shortly to be blasted; and he was doomed to irremediable suffering and premature death. For years he had borne with manly patience and christian expectation the trials of a distressing complaint. The cheering counsel of his friends urged him to repair to the island of St. Croix, with the vain hope of a renewal of his health. Thither he went, and died on the 29th of June, 1817.

Besides his inaugural dissertation, "De Absorbentium Systemate," Dr. Stringham was the author of several essays and papers in the medical journals of the day. He published in the New York Medical Repository an account of the efficacy of Digitalis Purpurea in allaying excessive action of the sanguiferous system, a description of a remarkable species of intestinal vermes, an account of the violent effects of corrosive sublimate, and a case of hydrocephalus; in the Philadelphia Medical Museum, a paper on the effects of mercury in a case of syphilis; and in the Edinburgh Medical and Surgical Journal, a paper on the yellow fever of America, in which he maintained the specifick character and contagious nature of that disorder.

To the preceding account of Dr. Stringham, taken from an introductory discourse on medical jurisprudence by Professor Francis, his successor in the chair in the New York University, to that branch of science, we add a few additional particulars of the life and character of Dr. Stringham, as contained in Dr. Francis' letter, addressed to Dr. Thacher and published in his valuable repository of medical facts, the American Medical Biography.

"He was one of the most efficient of that class of men who have successfully and disinterestedly exerted themselves for the promotion of science in this country, at a period when comparatively few could be found engaged in so good a cause. He was the first teacher among his countrymen who gave a course of lectures on forensick medicine. His taste for this study he had originally imbibed from his able preceptor, Dr. Duncan, senior, of Edinburgh. From this excellent man he derived many of

the views he imparted in his lectures, which, however, he enriched with materials drawn from extensive reading and reflection, from the elaborate investigations and details of Zacchius down to the recent productions of Foderé and Mahon. To Dr. Stringham are we indebted for the popularity which this intricate department of science now enjoys, and the importance with which it is cultivated in our medical schools. As a teacher his manner was admirably calculated to enlist the attention of his auditory and enforce respect; his style of composition was felicitous, and his delivery clear and forcible. It is no equivocal evidence of his persuasive eloquence that he first led his pupil Professor T. R. Beck of Albany, to the investigation of juridical medicine as an important though neglected study, and who has since, by his work on medical jurisprudence, enhanced the reputation of his teacher and secured his own extensive renown. Much might be said of Dr. S.'s medical erudition in general. He was for some time one of the physicians of that extensive charity, the New York Hospital. Here the freshness of his reading and his therapeutical talents were often conspicuous, and the clinical class were made wiser by the pertinence of his remarks. Notwithstanding he suffered long and greatly from an organick affection of the heart, and was often brought to the borders of the grave, he was seldom found without his book. He on several occasions evinced great independence and decision of character, particularly in the malignant yellow fever which prevailed in the city of New York in 1803. He was a member of the Royal Medical and Physical Society of Edinburgh, and fellow of the New York Literary, and Philosophical, and Historical Societies. It is deeply to be regretted that his MS. lectures on forensick medicine are still withheld from the publick. One more honourable in his intercourse with his fellow men could not be found."

A syllabus of the lectures of Professor Stringham on medical jurisprudence, is contained in the American Medical and Philosophical Register.

JOHN BARNARD SWETT, M. M.S.S., was born at Marblehead, in the county of Essex, on the first day of June, 1752. He was the son of Samuel Swett, Esq., a worthy and respectable merchant, and grandson of Mr. Joseph Swett, who, about the middle of the last century, first introduced foreign commerce into the town; by means of which it so increased in wealth and numbers, that in the year 1770 its proportion of the province tax was next to that of Boston.* His mother was the niece and adopted daughter of the Rev. John Barnard, congregational minister of Marblehead, and one of the most distinguished scholars and divines of his age and country, for whom he was named, and by whom he was adopted.

Under the fostering care of this eminent man the subject of this article was educated, and derived from him a taste for classical learning, which he after retained. In his childhood and youth he had a buoyancy of spirits, which interfered with a close and undivided attention to his studies. His aged patron would often inquire of his instructer how his boy got on in his studies, and was as often answered "tolerably sir." Provoked at length with the repetition of this reply, the old gentleman testily said, "tolerably, sir? Why do you not say intolerably at once?" This caustick rebuke from such a person had a good effect on the preceptor and his pupil, stimulating both to increased exertion.

Dr. Swett was matriculated at Harvard College in 1767. His amiable temper and pleasing manners made him a general favourite of his contemporaries, while his high sense of character rendered his progress in learning proportionate to his fine natural talents. About the time of his receiving his first degree in the arts, he was accidentally present at the opening and examination of the bodies of some persons who had come to a violent death. This circumstance determined his choice of the medical profession, to which his patron yielded with great reluctance, having a very strong desire that he should go into the ministry. Indeed so fixed was the old gentleman upon this object, that, although by his will he devised his estate to this child of his affections, a considerable portion was given upon the express condition

that he should follow the clerical profession; a condition, with which habit and powerful inclination prohibited a compliance.

Soon after he was graduated he repaired to Edinburgh, where he passed three years in the prosecution of his medical studies, under the patronage and instruction of that eminent physician, Dr. William Cullen. Here he formed an acquaintance with, and enjoyed the society of Dr. Robertson, Mr. Hume, and other celebrated scholars of that day and place; and made great advances in general literature, as well as in his professional pursuits.

The commercial embarrassments which preceded our revolution, interrupted his remittances; and his adventurous spirit led him to close with a proposal made to him to go in the capacity of surgeon to a fleet of merchant vessels, which was then fitting in the port of London for the Falkland Islands under the superintendence of his countryman Mr. Rotch, and was commanded by Captain James Scott, for many years master of a ship in the trade between Boston and London. The object of the expedition was to make an establishment at the islands, with a view to the business of whaling and sealing. The undertaking was attended with great success at first; but the revolutionary war soon brought it to a premature close. With the funds acquired in this enterprise he was enabled to complete his medical education by attending the hospitals in France and England; and he returned to America in 1778.

Immediately on his return he joined the American army as a surgeon, and was in the expedition to Rhode Island under Gen. Sullivan. Here he was in the same tent with John S. Sherburne, Esq., one of the general's aids, when a cannon ball from the enemy's battery took off the leg of the latter. He was in the disastrous expedition to Penobscot, which issued in the destruction of the whole fleet, and in the sacrifice of every thing beyond what each man could carry on his back. With his surgical instruments in his knapsack Dr. Swett was obliged to travel more than fifty miles through a trackless desert, from the Penobscot river to the nearest settlements on the Kennebec. His misfortune was felt the more severely, as he had just before met with the irreparable loss, by capture, of his professional manuscripts, prepared by him with great care when in Europe, and his valuable library and surgical apparatus, collected at great expense and trouble.

In the year 1780 he commenced practice as a physician and surgeon in Newburyport, induced by the urgent solicitations of several of the first characters in that place, to whom his character was not unknown, and to some of whom he was allied by birth. Here his progress was rapid and successful. Almost every surgical case through a large circuit devolved upon him, and his medical practice soon became very extensive. Being naturally very social in his disposition, and an attractive, intelligent and entertaining companion, of polished manners, and ingenuous frankness and good humour, he was a general favourite, and, as may naturally be supposed, largely participated in social enjoyments. As a means of these he was much attached to the fraternity of freemasons, and particularly to those of the higher degrees, as affording at that period a more select society; and it is believed that by his means the first encampment of Knights Templars in the United States was formed.*

In the summer of 1796 the town of Newburyport was visited with that most deadly scourge of our seaport towns, the yellow fever. It was with Dr. Swett not less a point of honour than a commanding sense of duty, which led him on this trying occasion to devote himself, through life or death, to his suffering patients, who looked up to him with their habitual confidence as to their only earthly hope in this appalling moment of mortal disease. Disdaining to desert them in their extreme need, he was constantly at his post in the most infected district of the town, administering all the relief in his power, and exhausting all the resources of

* In an historical account of Newburyport lately published, it is suggested that Dr. S. was, during his travels in Germany, initiated into the order of the Illuminati. He was never in Germany, nor was he ever a member of that order, which originated many years after his return from Europe. In the same work it is erroneously stated that he was a native of Newburyport.

his professional skill, until the inevitable consequence ensued. He became himself infected with the incurable disease, and fell a martyr to his high sense of professional obligation. His death threw a gloom over the town, not to be described in words.

Soon after Dr. Swett fixed himself in Newburyport, he married Miss Charlotte Bourne, second daughter of the Hon. William Bourne of Marblehead, who survived him, and is now the wife of the Hon. John T. Gilman, many years governour of the state of New-Hampshire. Four sons of this marriage, are now, 1827, living, and in respectable standing.

Dr. Swett was an original member of the American Academy of Arts and Sciences, and of the Massachusetts Medical Society, and for several years after the incorporation of the latter was its Corresponding Secretary.

GILBERT STUART, was a native of Rhode Island. After leaving college, he made up his mind to follow painting as a profession, and not being able to find a proper master in this country, Copley being then gone to England, he embarked for that country in 1775, and put himself under the instruction of Mr. West, who was then in the zenith of his fame. Stuart soon became a favourite pupil of his master, and graduated from his school with a high reputation as a portrait painter; he ranked second to no one, in London, but Sir Joshua Reynolds. While in the metropolis, he had the good fortune to become acquainted with Burke, Fox, Sheridan, and with many of their associates. These men were not only patrons of the arts, but the friends of artists. He painted several of them in a fine style, which spread his fame far and wide. From London he went to Ireland, and spent several years in Dublin. In this city he was without a rival, and had as much business as he could attend to. In the polished society of that hospitable and tasteful place he was a great favourite; and he relished the wit and gayety of the Irish beyond measure. Painters seldom feel contented to remain many years in one place. They are anxious to catch the admiration of many cities and different classes of society, to see new faces, and to study expression in every variety. At this time, Washington was, as his name ever will be, the idol of every lover of liberty, and the world were anxious to have a correct likeness of him. The Whigs of England were desirous that Stuart should come to the United States for this purpose. They had seen what were called likenesses of this great man, from painters, engravers, and sculptors, but still were not satisfied; nothing, as yet, had been produced that reached their idea of him When Stuart arrived at the city of Washington, the great man had retired from all office, and was in private life at Mount Vernon. He had been so often annoyed by every fledgling artist, that he came to the determination to sit no more for any one; but Stuart's fame, and Mrs. Washington's solicitations, overruled his resolution, and the hero and statesman was again seated for his picture. In the chair for the painter, Washington was apt to fall into a train of thought, and become abstracted from the things around him, and of course most of the likenesses of him, show more of gravity of muscle, than of the divinity of intelligence. When he sat to Stuart, as the latter has often stated, an apathy seemed to seize him, and a vacuity spread over his countenance, most appalling to the painter. The best portrait painter of the age, was now to take the likeness of the greatest man of all ages; and the artists and the patriots of all countries were interested in it. To have failed in getting a good likeness would have been death to the artist's fame, and a perpetual source of mortification to the people of the country. Stuart was, like Washington, not easily overcome; he made several fruitless attempts to awaken the heroick spirit in him, by talking of battles, but in vain; he next tried to warm up the patriot and sage, by turning the conversation to the republican ages of antiquity; this was equally unsuccessful. At length the painter struck on the master-key, and opened a way to his mind which he has so happily transferred to the canvass with the features of his face In the whole of this picture, in every limb, as well as feature the martial

air of the warrior chief, is admirably mingled with the dignity and majesty of the statesman and sage. It was a proper period in the life of Washington for a good picture. The bloom and beauty of youth have no majesty or greatness in them on the canvass; maturity and gravity are necessary to give a picture a proper effect; the lines of thought must be in the face; the marks of dangers braved, and duties done, must be there also. Nor should the painter wait until decrepitude and the dulness of age approaches. There is a period in the life of man, when Nature seems to stop, having matured her work, to contemplate it herself, before she suffers Time to begin his ravages. This was that moment. The picture, like the original, was peerless. The artist himself copied it several times with great success. It has been copied a thousand times by others, and every copy contains something of the first likeness—no small proof of its excellence and truth.

Stuart tarried a year or two in the city of Washington, and during the time painted John Adams, Thomas Jefferson, Mr. Madison, and many other distinguished men of our country. He removed from Washington to Philadelphia, which was then greatly in advance of the other cities and great towns in the United States, in every branch of the fine arts. Here, too, he was a favourite in society as well as in his profession. He often spoke of his residence in Philadelphia with great pleasure, and frequently began some of his anecdotes with—"When I resided in the Athens of America." His next remove was to Boston, where he resided during the remainder of his life: At first he did not, perhaps, think of making this city a permanent residence; but there have never been many, who were comfortably situated in society there, who ever wished to change it for any other place in this country. For several years after his coming to Boston, he was overwhelmed with business; many had to wait months for an opportunity of sitting to him; and even in his latter years he frequently had more calls than he could answer, notwithstanding a number of painters, quite eminent in their profession, had collected in Boston, and were active and attentive in their professional pursuits. All, in his line, looked up to him as their head, and felt no jealousy of him, for his pre-eminence was generally acknowledged. Most of the opulent families of Boston have pictures from his pencil; a house is hardly considered as properly furnished, or certainly not complete in its ornaments, without some head by Stuart. Although he often expressed a strong desire to do something in the historical way to leave behind him, yet he never found time for the purpose. In some of the back grounds of his portraits, he has sketched some emblematick outlines with admirable effect. These sketches go far to show what he might have done in the historical line, if he had pursued it.

The number of his portraits is wonderful, and are, in general, fine likenesses; but some few are failures; even "*Homer sometimes nods.*" He had the power of giving the best expression of a face. The mind and character of the original seems to breathe from his canvass; and if there be a fault in his best pictures, it is, that he sometimes, in the plenitude of his power in the art, threw a ray of his own genius into a countenance in which nature had given no indication that she had stolen the fire from heaven to light it up. For forty years, or more, he stood at the head of his profession as a painter of *the human face divine.*

In his person, Stuart was rather large, and his movements, in the latter part of his life, were slow and heavy, but not ungraceful. His manners had something of the formality of the old school; but it was evident, at the first blush, that he had been conversant with good society. He loved to display his powers as a conversationist, and to come in friendly collision with intelligence and wit, in order to sparkle and shine. He was sometimes a little fastidious and eccentrick: but he never lost the manners of a gentleman on any occasion. His literary acquirements were of a high order, for a professional man, constantly employed; but his early education was good, and the foundations of a classical education were well laid. His penetration was acute; for he saw at a

glance the qualities of the mind of the person who came only to have an image of his person struck out. He had often accurately weighed the intellect of his sitting subject before he had finished the mechanical operation of measuring the size of his head. He reasoned upon the principles of his profession with a depth of philosophy worthy of a master; and he always contended that a regard should be had to the moral as well as physical, in making a just portrait of a man. The capacities of his art were all known to him, and he ridiculed the numerous futile attempts to go beyond them.

The lives and works of the great artists of all ages were familiar to him as his pallet. He discoursed upon their excellences, defects, and peculiarities, as one who had read and examined them all most thoroughly. His eloquence was peculiar and attractive; his voice was strong and deep; his enunciation clear and distinct; and his countenance came in aid of his voice, for his features were bold and lion-like, and no stranger ever passed him without mentally saying, "That is no ordinary man." It was a treat to see him in his best humour: for he was full of anecdote; and told a story with such neatness, precision, point, and elegance of language, that it often happened, that those who came to admire his painting, went away charmed with his eloquence. By the alchymy of his genius, he distilled the essence of every topick of conversation, and gave a spirit and flavour to even playfulness and trifling. Titles, wealth, and beauty, at whose shrines the world pay their devotions, had no controlling influence over him; he was too much self-concentrated and too full of "the sin for which fell the angels," to do homage to any thing but commanding talents, and these devoted to letters and the arts. He had no respect for those engaged in the ordinary business of life; I mean that respect the world pays, and ought to bestow on prudence, economy, calculation, and thrift. Nor was he very much disposed to give a great share of praise to those who became distinguished rather by industry than by superiour abilities; he really did, or effected to despise all elaborate niceties and painful finishing, for he cared for none of these himself; not that he was an advocate for careless and rapid productions, but he looked for the touches of genius, and often remarked that artists of ordinary capacity mistook *work* for *study*. He thought no man should be found among the sons of the prophets, without a good share of the true spirit of inspiration; and did not hesitate, at times, when the world were running after some new artist, to say, with some little bitterness, "That man had better have continued his pursuit for his father's lost cattle, than to have come among the prophets!" His opinions, however, of the works of young men, were, in general, candid, and often kind, if the authors were modest and desirous of instruction; but upon the pert and impudent, his satire was of the keenest sort; it came in all forms, of irony, epigram, and scourge, until the dullest brain was made to understand, and the thickest hide to feel. It was seldom that he was roused to resentment; but, when he was, his invective was fierce and terrible. He was too proud to seek admiration, but well-timed compliment was not lost on him; a love of it makes up a part of the character of every great artist.

Fickleness is an ingredient that is frequently mingled with taste and refinement. Athens, in her proudest days, gave strange evidences of this truth; and the community in which Stuart spent the latter part of his days, has, with some justice, been charged with it also. But if ever, in the restlessness of caprice, any one remarked that Stuart was growing old; that his eye had lost something of its accuracy, and his hand become tremulous; or that increasing infirmities had made him testy, the people would not listen for a moment to any such remarks; they would not give up their favourite. These rumours of the decay of his faculties sometimes reached the ears of Stuart, and suddenly some great effort of his pencil would be brought out, that showed at once that the intimations were groundless, and proved that envy, caprice, or slander, had no power over his deep rooted reputation.

The errours of men of genius,

for when were men of genius without errours? are generally injurious only to themselves, and should be buried with them; but their merits should be embalmed by their epitaphs, written by kindred spirits, and engraven on monuments and columns, and transferred to the page of history, to make up a part of their country's glory. Envy and ill nature often magnify these errours, and set them down, and con them by heart, which when rightly understood, are only the offspring of irritable nerves and delicate fibres; and should be given over by the moralist and biographer, to the consideration of the physician; for they are mostly diseases of a physical nature.

He was impatient of criticism upon his works, even from the choice spirits who surrounded him; and in the last place of his residence, he had not a few of them; and it is to be presumed that in other cities he had as many. They did not, with all their taste and talents dare to venture farther than just hint a defect, or an omission; and that he never received very graciously, even if his good sense induced him to adopt the suggestion. But if ignorant or vain patronising sitters began to criticise, or find fault, he perhaps parried the first attempts with a delicate sarcasm, or a sneer, half concealed by a smile; but if this did not operate as an estoppel, and the remarks were repeated, he turned upon them with that resentful and appalling directness, that either produces silence or a quarrel. He would not bear any flippant connoisseur about him. Numerous instances have been related, and many of them believed, of his having resented a hasty word from men of the first standing in society, by refusing to finish a picture, and nothing would ever induce him to touch it again. One of these pictures, on which a dandy criticism produced a quarrel, and which is unfinished still, is one of exquisite beauty; it is three views of the beautiful face of a celebrated dame who was then just married to a foreign magnate. It is but justice, however, to say, that it was not the lady who made the offensive remarks, but her dapper husband, who found fault with the drapery. "That you can buy," said the indignant artist, "at any milliner's shop in the city." This happened while Stuart resided in Washington. He contended that no artist should ever submit to these vexations; that they should, one and all, set their faces against them. He often remarked, that Haley, who wrote a good deal of tame poetry, should be forgiven for all this, and for lavishing so much praise on Romney, for the following lines on the painter's evils:

"For when the canvass, with the mirror's truth,
Reflects the perfect form of age or youth,
The fond affections of the partial mind,
The eye of judgment with delusions blind;
Each mother bids him brighter tints employ,
And give more spirit to her booby boy:
Nor can the painter, with his utmost art,
Express the image in the lover's heart;
Unconscious of the change the Seasons bring,
Autumnal beauty asks the rose of Spring;
And vain self-love in every age the same,
Will fondly urge some visionary claim;
The luckless painter destined to submit,
Mourns the lost likeness, which he once had hit;
And, doom'd to groundless censure, bears alone
The grievous load of errours not his own."

To one who works for gain alone, these things are no evils; he cares nothing for them, but yields to every suggestion; is a kind good man, is admired, gets his fees, and thinks no more of his work, nor of its destiny, which, probably, is to hang a while in the parlour, thence to be removed to the garret, and from there pass off to oblivion by damps or rats; but to such a painter as Stuart, who fondly hoped, and firmly believed, that he was painting for unborn ages, and that his common pictures would be sought for and valued as a Rubens or a Guido, these paltry criticisms were gall and wormwood for the moment, but were never remembered afterwards, or, if they were, they were only called up, for the amusement of some of his friends, in an hour of relaxation or merriment.

The fame of Stuart is secure: no chance can destroy it. His portraits are too numerous, and are too widely scattered, to be lost by fire or flood. Some of them will remain under any circumstances; and he has painted many men of distinction, in their day and generation, whose reputation will go down to posterity with his. There is a sort of tacit contract between a great man in the literary, political, or scientifick world, and his painter, if he, too, be distinguished, to join hand and hand, and present themselves to future ages together. On Stuart's paintings, his

contemporaries have given a verdict, and it is on record, "*that his likenesses are admirable;*" and other times shall pronounce them fine paintings. He has not wasted his strength on dress and drapery, which is often admired by those it was intended to please or flatter, and in the course of a generation or two, is a subject of amusement to the descendants of the stately dame they adorn or encumber. They laugh at the niceties of ruff or stomacher, which cost weeks of labour to artists. Stuart wisely brought all his talents, and all the powers of his art, to bear upon the human countenance, which, amidst all the varieties of the race of man, in every climate, and every age of the world, still wears the image of his Maker. The seal which gave assurance of a man has never been broken or effaced. It was not that Stuart wanted the art of painting most excellent drapery. In the picture of Washington painted for the artist's native state, and which adorns their hall of legislation, the drapery, furniture, and accompaniaments, are considered superiour to the figure of Washington itself, which is one of Stuart's best paintings. He was wise in one other respect. He painted with permanent colours. If they were not so beautiful at first sight, as the delicate lakes and carmines, they were put on with a full faith in their durability. He seldom or never spoke of his colours without alluding to the melancholy fact, that most of Sir Joshua's paintings had faded, and were now out of sight.

It is often asked, of what school was your great painter? He would acknowledge no master; but if what the ancients have told us of Parrhasius and Aristides be true, he had much of their manner and spirit, and no small share of the former's self-esteem. Most certainly he had nothing of the present Italian and French schools in his compositions. Himself, his works, his taste, his conversation, his tone, were all masculine; so deeply masculine, that, in but a very few instances, did he ever succeed in making a fine picture of a great beauty. The character of so great an artist deserves a minute biography; but this is not within the plan of my work. It is said that the artists are about to erect a monument to his memory. If this be done, may some learned and tasteful brother—Trumbull, Alston, or some other one who knew him well—write his epitaph, in the spirit of admiring truth; and make his biography a portrait that may bear to be placed in the Temple of Taste, along side the productions of his pencil. He died at the advanced age of seventy-four, in the full possession of his faculties.

JAMES SULLIVAN was born the 22d of April, 1744, and was the fourth son of JOHN SULLIVAN, who, about the year 1723, came from Ireland, and settled at Berwick, in Maine, and died at the extraordinary age of more than 105 years. He educated his son, who owed to him all the instruction which he had, except in professional science, and the father lived to see his brilliant success in the world. SULLIVAN was not in his youth devoted to learned pursuits, but resided at home, engaged in the happy but obscure life of agriculture. In a state of society moral and informed, but not polished, his ambition had probably never aimed at that celebrity which he afterwards attained. Here he imbibed republican lessons, which he never forgot. He learned that there was virtue and merit where there was little wealth or splendour; and was ever after attached to the yeomanry of the country, and regarded them as citizens on whom the welfare of the community mainly depended. He was deservedly their favourite, and never deceived their confidence. In some states, the people of the humbler order are averse to the elevation of those of their own number, and prefer others born of more eminent families. It is not so in New England. A large proportion of our influential men proceed from the common walks of life, and feel for their old friends a respect, which those who have always lived in another sphere are not so likely to entertain.

An accident which at first foreboded the greatest evil, was the cause of SULLIVAN'S adopting the profession of the law. While felling a tree in the woods, he accidentally received a serious injury in one of his limbs, from which a long and painful illness ensued. The consequence of this, was lameness during the

remainder of his life. This misfortune kept him from the army, in which he had determined to enter, and directed his attention to the profession of the law. His talents fitted him for the army, and he would probably have been promoted to high military distinction, had Providence not defeated his purposes; but he could not have been more useful in military, than he was in civil life. His advantages for study in early life were small; he was not stimulated by the competition of a large seminary, nor introduced by the counsel and assistance of learned friends, to that fruitful field of knowledge which is opened in a regular classical education. It may in consequence be lamented that the early studies of this man of genius were not differently conducted, but how far our regret is well founded cannot easily be ascertained. There is a sort of culture which acts unpropitiously on the native powers. Invention is sometimes retarded by the necessity of plodding over what is known, and remembering subjects disagreeable to the taste of the scholar. Fancy, broken and tamed by rules, often loses in boldness and sublimity of flight, what she acquires in artificial correctness. Publick education is frequently ill adapted to practical usefulness, and unsuited to the character of the student. SULLIVAN escaped the dangers of servile imitation; his mode of speaking was his own, not an awkward, unnatural mimickry of a dull pattern. In youth, his head was not encumbered with obsolete lore, nor clouded with these thick mists of polemical divinity, which envelop many of our colleges, and are so unprofitably mixed with their whole management. He had a philosophical turn of mind, which he improved by exercise; yet his remote situation denied him the best means of furnishing his mind, and the courage and success with which he met and overcame all obstacles cannot be sufficiently admired.

In the study and practice of the law at that period, there were difficulties which must have severely tried the fortitude of a beginner, particularly of one who came forward under so many disadvantages. The elements were in no fairer shape than Wood's Institutes, and Coke's Commentary on Littleton. The wheat was hid in the chaff. Blackstone's Lectures were first published in England, in 1765, and could not have been much known in this country until some years after SULLIVAN commenced practice. There were then no Reports, no books of forms appropriate to our peculiar laws and practice; which gave the elder lawyers, who recollected decisions, and had precedents at command, a greater superiority over the younger than they now have. SULLIVAN was then remote from the metropolis, but the splendour of his talents shone through the darkness of the wilderness. He was indebted for no part of his fame to adventitious helps. He was not like PARSONS and DANA, trained by the lessons of TROWBRIDGE, that ancient sage of the law; yet Providence smiled on the unaided efforts of his genius, and so rapid was his rise, that before the revolution he was advanced to the rank of a barrister in the superiour court, and appointed king's counsel for the county in which he resided. He was destined to act a higher part, and though thus noticed by men in power, was ready to oppose their tyrannical measures. The people of America were too wise to permit the operation of a principle of government radically wrong and slavish. They would not endure an attempt to take away their property without their consent.

Since the primitive days of Greece and Rome, there have been no such instances of patriotism and self-devotion as appeared in the ensuing war. The people rose in their strength and did not rest until they could repose in independence. Their resistance was founded on an enlightened understanding of their rights, and was not the ebullition of transient heat or blind resentment. The lawyers of those days, generally, are entitled to distinguished praise for the disinterested part which they acted. Many of them stood so high that their course was readily copied; and had they been on the side of the crown and colonial governour, who had heaped on them personally flattering distinctions and lucrative offices, the opposition would probably have been

little more than nerveless and disastrous sedition. It will be admitted by every one, who reflects, that they lost more than they gained in a private view, by the change of government. They were in the first ranks of the community; and it has always been the policy of the British executive to patronize liberally all men whose influence may be serviceable, and to reward them out of the spoils of the people with posts of honour and emolument. Notwithstanding these prospects before their eyes, they laboured at every hazard to establish an equal, economical and frugal republick. SULLIVAN's expectations of preferment were great and alluring in their nature, but his lofty principles were not affected by this temptation, and he determined to fall or rise only in the cause of liberty.

Our government being representative, and all measures decided by the deliberations of many, the civil policy of the country cannot be attributed to the wisdom of one or two individuals alone—What any one proposes is considered and modified by the counsels of others, and often goes into effect in quite a different shape from that in which it first originated. In military affairs, unity of plan is essential to success, and if the general advises with his officers, his counsel is at his own risk, and to be selected by his own judgement. The credit of success in war is therefore almost exclusively attributed to the commander. The responsibility of conducting our armies and preserving them from destruction in the war of independence, devolved on WASHINGTON, and the praise of victory is with justice ascribed mostly to his personal energy and prudence. So absolute princes receive the honour of reforming civil institutions by their own efforts, or by directing the labours of statesmen and jurists, to the same end. For this reason Justinian and Alfred have been celebrated as reformers of law. No one man in this country can claim for himself alone, the merit of framing our constitutions and amending our laws. But SULLIVAN had a large share in the proceedings of the government of Massachusetts, at the period of the revolution. Before he had reached the thirty-second year of his age, he was reckoned among the first men. He was a member of the Provincial Congress, and while he belonged to that body in 1775, was sent on a difficult commission to Ticonderoga, in company with the Hon. W. SPOONER and J. FOSTER, for which a vote of thanks was passed. In 1776 he was appointed a Judge of the Superiour Court, with JOHN ADAMS, WILLIAM CUSHING and others. He had before been appointed Judge of the Court of Admiralty erected for the counties in the District of Maine, but never entered on the duties of that office. He assisted as a member of the Convention to form the state constitution, and continued a Judge of the Supreme Judicial Court until February, 1782, when he resigned and returned to the practice of the bar. In 1783, he was chosen by the General Court, a delegate to represent the State of Massachusetts in Congress; and in the ensuing year acted with JOHN LOWELL and THEOPHILUS PARSONS, as a commissioner in the settlement of the controversy then existing between the States of Massachusetts and New York, concerning their respective claims to the western lands.

He was repeatedly chosen to represent the town of Boston in the Legislature; in 1787 was a member of the executive council; the same year was made Judge of Probate for the county of Suffolk, and in 1790 Attorney-General.

In 1796 he was appointed by President WASHINGTON, a commissioner under the fifth article of the British treaty, for settling the boundaries between the United States and the British Provinces. In June, 1807, he was called to the chief magistracy of the Commonwealth.

Whoever considers the acknowledged eminence of the Commonwealth of Massachusetts, must be convinced that a lawyer who was called to such high trusts, when offices were not given by favouritism or party motives, must have had unquestionable talents, and been an able and successful advocate.

The power of description never fails more than in the attempt to convey an adequate conception of the eloquence for which a departed orator was applauded. Comparing

able speeches to torrents, rivers, cataracts, fire and lightning, or to any grand objects of nature, by any analogy whatever, rather displays the aspiring language of eulogium than does justice to the dead. Who that had never read the works of ancient orators could receive any competent idea of them from the representations made by their admirers? All that is possible to be told, may be expressed in a few epithets that have a definite meaning in the science of rhetorick; and, by relating the time, the circumstances, and, as it were, the scenery which gave effect to what was uttered. The grace of action irretrievably perishes, and the beauty of the style can only be known by reading what was delivered. The eloquence of a great man is seen through any description, dim faint, and shorn of its beams.

All our people read their native language and are accustomed on all occasions to thinking, inquiry, and deliberation. Their judgements are commonly formed patiently and slowly. From theological books, to which they are generally much devoted, they acquire habits of investigation and argument which they apply to other subjects. They pay more attention to the sound reasoner, however dry, than to the glowing images of the charming orator, charming never so wisely. Ornament, to suit them, must be more after the Athenian than the Asiatick models. Mansfield would please them more than Curran or Burke. SULLIVAN and PARSONS made more impression than AMES. To have a powerful sway with juries of this description, SULLIVAN was obliged to study their taste, and to adapt the style of speaking according to their standard. Thence it happened that his oratory like that which prevails in New England, was solid, logical and correct, though sometimes he could be figurative, dazzling and brilliant.

He had very dignified manners and a commanding person, which, when he spoke in court, did not appear to be marred by his lameness. His features were remarkably fine, and the expression intelligent and placid. He was always composed and self-possessed in argument, for his powers were not only great, but ready for every trial. The greatest lawyers were his antagonists at the bar, DANA, LOWELL, PARSONS, SEWALL GORE, DEXTER and OTIS. Still he sustained his rank, and if not first, was in the first class. He was as well versed in special pleading and all the forms of practice, as in the science of the law. In one of his works he thus expresses his opinion on the importance of forms. "There is more of the substantial principles of justice depending on forms, than men are generally willing to acknowledge. When forms are done away, the substances may remain; but when the forms are no longer discerned, the difference between the nature of substances is soon lost. The dust of man, when his form ceases to appear, is not known from the dust of other animals. Established forms of procedure, in the distribution of civil justice, serve to bind the judge and the magistrate to the path of their duty, and to chain the man exercising civil authority, to the line of his jurisdiction; because, that through these, the people are enabled to discover each deviation from right, as colours serve to give the first intimation of the nature of the substance on which they appear."

The great traits of his mind were force, comprehensiveness and ardour. Nothing of consequence in any cause escaped the fulness and intensity of his thoughts. His arguments were clear, close and strong, not calculated so much for parade as to secure conviction. His voice was clear and loud, his enunciation articulate and emphatical. His tones were adapted to the subject and the audience. His pathos sometimes drew tears from those who heard him. In important cases, his addresses to juries were well prepared and digested, and embraced and illustrated all the topicks of the question. He acted as Attorney-General in the two very interesting capital trials which have been reported. His management of each would do honour to any lawyer. One was the case of JASON FAIRBANKS, who in the year 1801, was convicted on circumstantial evidence of the murder of Miss Fales. The publick were violently agitated at the transaction: most were strongly im-

pressed against the prisoner, but some in his favour. The defence was conducted by H. G. Otis and J. Lowell, junior. Perhaps facts were never more adroitly argued than they were on this occasion. The prisoner's counsel commented on the testimony with wonderful ingenuity. Sullivan, the Attorney-General's reply was masterly and conclusive. He remarked on all the facts with great ability, and met every doubt and objection with fairness and success. In his speech were some excellent moral touches, and the whole trial is, even at this day, worthy of being read by every student of law who loves his profession, and would wish to see in how many different lights the same facts may be presented. The accused was a young man of good family and education, and twenty-one years of age. The deceased was a reputable young lady of eighteen.

The other was the celebrated case of Selfridge, who was tried for killing Austin, which, from party excitement at the time, and the important questions of homicide raised and settled in it, was known throughout the United States. The report of the trial has circulated so extensively and been so much read, that it is sufficient to refer to it. It was considered a specimen of the greatest legal skill and learning on both sides, and Sullivan was thought to have encountered the exceeding subtlety and deep research of the defendant's counsel, Gore, and Dexter, with a power of argument and illustration no way inferiour to theirs.

Sullivan was universally popular until he opposed some measures which were adopted soon after the national constitution was ratified. The parties which have since divided the country rose at that time, though they became more distinctly marked afterwards. He disliked the national bank and was friendly to the republick of France, until the excesses of the demagogues there disappointed his cherished hopes for its rational liberty. In these opinions he differed from some of his old esteemed associates. The separation grew wider and wider, until what was at first an honest difference of judgement. grew into alienation and antipathy. These things could not move him from his course. No man was ever less intimidated by the storms of party rage. What particular share he had in the party transactions of that day is not known to the writer. It is believed, however, that he was so far from exasperating the passions which were then roused, as to sacrifice much of his own feelings to the interests of peace and moderation. He gave the weight of his high standing and talents to the side which he thought was right, and was regarded as its most efficient leader in the state. This exposed him to much virulence and abuse. And what eminent man has not been subject to calumny? He was consistent through his whole publick life, and when the most provoking obloquy was heaped upon him. never returned railing for railing. He had too much good sense, philosophy and piety to be thus guilty. Whoever reads his productions will be struck with their calmness, justness and forbearance. His eye was fixed upon truth and the everlasting welfare of his country; and he was too elevated to suffer by the traducers who wished to ruin him. This moderation, as was natural, only inflamed them the more; but his firm and conciliatory conduct did not fail of gaining the respect of liberal and fair opponents; and they who were halting between the two parties were won by it to his side. Never did any great man more completely and honourably triumph over his enemies. Every year to the last, added strength and stability to his reputation, and he died, (October 17, 1808) invested with the badges of the higest office in the gift of his native state, and was universally mourned.

In his administration he was wise, upright and impartial. When solicited by some violent men to remove from office some worthy incumbents, for no other reason than being of the opposite party, he declared that he would be the governour of the people and not of a party. The object of his administration was to conciliate parties, and was in some degree successful. But after he died the olive branch withered and the political storm raged more than

ever. Every thing is now calm, the state is safe and free, and he sleeps in peace with others, who with equal patriotism took another course. We now recollect with admiration that he sustained a greater number of important offices, and for a longer term, than any other man in the commonwealth ever did, and that he never shrunk from his duty or proved unequal to it. Every step of his career was laborious and responsible, but his energy and faithfulness supported him through every part, in the practice of the most arduous virtue and constant usefulness. The federal constitution was in his view pregnant with the greatest benefits, and he writes of it as follows:

"When the United States assumed their independence, they offered themselves to the world, as free, separate, sovereign powers. The league called the confederation, by which they attempted to act as a nation for certain purposes, very soon lost its efficiency and became a dead letter. Various were the schemes for a permanent union, at that important crisis, filled with anxiety and alarm, and many were the speculations offered to the publick eye. A mere confederation, without energy or power, was one extreme, while a consolidation of all the states to one complete entire sovereignty was the other. In the first, were contained those seeds of discord and disunion, which would, in full growth, have rendered us the sport of European powers, and have fixed us in war among ourselves. In the other, the increase of our people, the extent of our country, and the pride of power. fixed in the hands of a few, exhibited all the terrours of an hereditary monarchy, upheld of necessity by an hereditary aristocracy: For the tall cedar cannot stand alone; the large trees of the forest must encircle and shield it, or its fall is certain and inevitable.

"When the publick mind was agitated by these speculations, Virginia, the oldest sister of the union, issued a proposition for a national convention, to be held on this interesting subject. The fortunate event is known, understood, enjoyed. A national constitution was produced, examined, amended and established.

"By this system, the people withdrew a portion of the sovereignty, which had been devolved on the governments of the states separately, and vested it in the national government, to be exercised on men and things, according to the form of the constitution. So that we now behold two sovereign powers acting upon the same subject at the same time. This novelty in the exercise of power is now in the hand of experiment, and were we at this moment to form an opinion, without further process, we should pronounce without hesitation in its favour. We should vouch peace and prosperity; we should call up increase of wealth, and population; we should exhibit health, happiness, publick and private felicity, to maintain our assertion.—L. T. p.

"Could we understand our present political situation, as a nation and as separate states; could we carefully and impartially examine it, in all its nice and regular forms; could we see the beautiful connexion of all the healthy and vigorous parts, which compose the unprecedented and glorious system of government, which heaven has seen fit to bestow upon us, we should view the man who would dare predict a change of it, as to its essential principles, as our most inveterate enemy. We should hold him as the common enemy of mankind, because unless the enlightened people of the United States can support the dignity of freedom and enjoy the blessings of free government, there is no hope left for the human race." Obs. U. S. Government, p. 13—14.

Political and professional pursuits did not wholly engross his care. Letters and science received his aid and encouragement. He was one of the first members of the American Academy of Arts and Sciences; one of the founders and many years president of the Massachusetts Historical Society. In the life of Sir William Jones may be found a letter which was addressed by Sullivan, when president of that society, to inform him of his election as an honorary member. He was actively concerned in several religious and benevolent associations. His publick spirit was never weary in its exertions; and since publick works have

justly obtained so much estimation, and reflected on their projectors so much honour, it should not be forgotten by the citizens of Massachusetts, that, besides his other claims to their gratitude, they are indebted to Governour SULLIVAN for the Middlesex Canal. He planned that great work, and devoted to it much time and labour. From its commencement until his death he was president of the corporation. Some of his writings have been published. They seem to have been intended by him rather to be of service to the world than to build up a literary reputation. He was too much engaged in business to have leisure for very elaborate composition. The subjects of which he has treated are all interesting, and he did not feel himself at liberty to withhold the light which he could bestow on them. The History of Land Titles contains the most prominent facts in our legal annals, and many just and excellent remarks on our laws and constitutions. It would be more read and better esteemed, had not our Reports, which were soon after published, gone more fully and conclusively into the same researches. The reasonings of one man cannot stand in competition with the opinions which are spoken by authority. The History of the District of Maine does credit to his industry, and preserves from oblivion much traditionary narative. His Treatise on the Suability of the States, is a sound and judicious piece. The Path to Riches or an Essay on Banks, contains perhaps as good principles on that topick as can any where be found, and in point of style is one of his neatest and most finished performances. I have never seen his Treatise on the Constitutional Liberty of the Press. He proposed to write a history of the criminal law of the state, but it was never printed. Every one of his works glows with the fervour of true patriotism and benevolence. His conversation was enriched with the stores of various reading, for there was no department of learning with which he did not seek an acquaintance.

The late Rev. Mr. Buckminster of Boston, whose church he attended, in the sermon on his death said,

"His mind, if I may be allowed the comparison, was like a native forest which had never been entirely cleared, or carefully divided; where the light gained admission at every opening, and not through any regular avenue; where the growth was rapid and thick, and though occasionally irregular, yet always strong; where new seeds were successively shooting up, and the materials seemed never likely to be exhausted. I know that men of original thinking, whose minds are at all of a philosophical cast, are tempted, especially when deprived of the discipline of a regular education, to speculate too curiously on the subject of Christianity, and to indulge the conceits of a barren scepticism. But to the honour of our departed chief magistrate I mention it, his faith was never wrested from him by subtlety, nor thrown away to pursue with more freedom purposes of interest or passion. His early profession of Christianity, his attachment to its ministers, his connexion with several of its churches, and his interest in a rising family, came in aid of one another, and of religion in his mind."

He was exemplary in performing the duties of all the several relations of life. The author of a well written obituary notice which appeared in the Palladium after his death, thus describes the closing scene of his career.

"In the long and distressed confinement which preceded his decease, though always aware that his disease was beyond the reach of medicine or human skill, he suffered with resignation and calmness, and scarcely ever was a complaint heard to escape from him. He often beguiled the tediousness of his sleepless nights with instructive and pleasant conversation. He often spoke with fervent gratitude of the consolations which he experienced; above all, that his illness had not bereft him of his mind, and that he was permitted to close his long and laborious life in the bosom of his family, with the unshaken assurance of renewing his existence in another and a better world."

I have thus paid the small tribute which I could to the memory of the man who wished for honest fame. He hoped to be remembered. "Self love says he, attaches itself to, and

places an undue estimate on the things we possess; and we therefore do not indulge with pleasure, the reflection of being separated from them for ever. As a balm to ease our feelings, we pursue measures to render our names immortal, and to print the lines of our existence here as deep as possible, that generations far distant on the wheel of time, as they roll near and pass on, may recognise where we once had been."

Our country has a property in the characters of its great men. They shed a glory over its annals and are bright examples for future citizens. Other nations too may enjoy their light. The flame of liberty has been caught from the patriots of Greece and Rome by men who were not born in those lands, while the descendants of those patriots have forgotten the fame of their ancestors. And should it happen, contrary to all our prayers and all our trust, that the inhabitants of this country at some period hereafter, should lose the freedom and the spirit of their fathers, the history of our Adamses, our Warrens and our Sullivans, shall wake the courage of patriots on distant shores, and teach them to triumph over oppression. A.

DAVID TAPPAN, D. D., an eminent divine was born at Manchester, in the county of Essex, in the state of Massachusetts on the 21st of April, 1752. His father was a respectable clergyman of that town. David was educated by his father until he was twelve or thirteen years of age, when he was sent to Dummer Academy in the same county, at that time under the care of the celebrated teacher, Samuel Moody. At the age of fourteen he entered college, and at twenty-one he was settled over a parish in the town of Newburgh, in the same county. The young preacher was distinguished for great sincerity of heart, and purity of character, united to an affectionate disposition.—Instead of passing his time in idle discussions on disputed points, he studied particular subjects, and wrote his sermons with care and neatness. His style was remarkable for simplicity and taste. He read the best authors for models, and was careful in correcting his sentences, if they did not suit his ear. He was not ashamed to bring the graces of composition in aid of his religious principles. His elocution was easy and natural, his voice sweet and clear, and such was his affectionate zeal in the cause of salvation that "truth divine came mended from his tongue." In 1792 Doctor Tappan was elected a professor of Divinity, by the corporation of Harvard College. This appointment gave great satisfaction to all parties in religion; the orthodox were satisfied with his creed, and the unitarians found no fault with his preaching. The scholars were delighted with him as an instructer, who taught the great doctrines of salvation, without insisting on implicit belief in every dogma of his creed; and so kind and parental was the manner in which his precepts were conveyed, that it secured at first their attention, and then served to direct their faith and to fix their principles. In his common intercourse with his pupils, all could approach him with their complaints and wishes. He kept up the dignity of the professor, but at the same time discovered the warmth of a friend and the courtesy of a gentleman. The Doctor was in possession of every heart in college, and the change in the countenance of all the scholars, was easily marked as they passed from the chilly effects of monkish rudeness, and pedagogical assumption, to share the benignant smile of the holy man.—He died in the midst of his usefulness at the age of fifty-one, on the 27th day of August 1803, deeply lamented by all who knew him. For years after his decease, the college themes abounded in compliments to his mildness, his kindness, and his friendship to those under his spiritual guidance, and some of these productions deserve to be remembered.—The professorship of divinity is the most difficult to fill of any one in the college. He cannot please all;—some of his pupils belong to one denomination—some to another, many of them in opposition to each other. If he pertinaciously insist upon his own articles of faith, he is called a bigot by those who do not agree with him; if he cautiously yields in unessentials, the rigid deem him a latitudinarian; and disseminate doubts of his having any faith in what he teaches; but Doctor Tappan was an exception to these remarks. Like the

beloved John, he rested on the bosom of his master, still did not excite the envy of his fellow disciples.

GEORGE TAYLOR was an Irishman, and was born about 1716. His education was good, but he came to this country pennyless. He at first had recourse to menial labour for a support; then he became a clerk, and afterwards married his master's widow, and became possessed of considerable property in iron works, which he managed judiciously. Before the stamp act he was a member of the legislature of Pennsylvania, and showed a talent for business in a deliberate assembly. He, with the ardour natural to his countrymen, entered into the great doctrines then discussed; but Pennsylvania was not forward for a separation from the mother country. In 1776 Mr Taylor was sent to the continental congress, but not until after the question of Independence had been voted on; yet he had an opportunity of affixing his name to that instrument as sent to the world. Mr. Taylor returned from congress the next year, having left the state for that of Delaware. He never came afterwards into publick life, but was an industrious good citizen. He died in 1781, in the forty-sixth year of his age.

JOHN TAYLOR.—The following sketch of Lt. Governour Taylor is from the pen of a veteran officer of the revolution, Major Popham, of Westchester county in the state of New-York. The major was nearly eighty when he wrote this notice of his friend and companion in arms, and is still living in possession of his mental faculties, and in the exercise of those virtues of benevolence and Christian charity. The recollections of such men, refined by education, and made wise by reflection and experience, should be sedulously sought for, and carefully treasured up. I have taken his letter entire, not venturing to change a word. It was contained in a letter to a friend.

To Professor J. N.

My dear sir: You ask me to inform you of such of the particular events in the life of the late Governour John Taylor, that highly valued and greatly respected friend of my youth, as may occur to my recollection. As my military duties during the revolution generally confined me to the southern section of the state, my opportunities of personal association with him were chiefly confined to our winter quarters, which were always enjoyed together; the greater part of course of my information respecting his eminent and useful services, was obtained from him in the frequent and unrestrained conversations of the passing moment. And I lament that my memory, now very much shattered by the rigour of nearly fourscore winters, will fail me while attempting to relate these events, which, however deep the impression made at the time, I have, alas! suffered to fade away without note or comment. And it is greatly to be regretted that the Governour had not committed to paper the various incidents of a life so long and so successfully devoted to the service of his country, and to which I had so frequently and earnestly urged him: and I cannot even now renounce the hope that, upon diligent search, memoranda will yet be found, which will assist you in delineating a life so intimately interwoven with the prosperity and glory of his country—a life which, in every point of view, shone conspicuously amongst the patriots of the revolution, as well in the field as in the cabinet.

Governour Taylor was born in the city of New York, on the 4th of July, 1742, the only child of respectable but inopulent parents, his grandmother being nearly related to the late Colonel Charles Clinton, the grandfather of the late De Witt Clinton, and survived the death of her husband several years. His father was a gentleman in slender circumstances, but sufficiently opulent to have given his son a regular education, for which purpose he was placed at a classical school, in which he made more than ordinary proficiency, evidences of which repeatedly appeared on suitable occasions: but his father unfortunately dying, he was left an orphan. At the age of seventeen, determining no longer to be a burden on his widowed mother, he removed to the city of Albany, with his father's watch, the only patrimony which he ever received.

A British garrison being at that

time stationed at Lake George, this youthful aspirant determined to try his fortune in the camp; and, by the aid of some adventitious funds, being enabled to procure some military stores, he removed to the lake for the purpose of supplying the officers with necessaries. In this business he was singularly fortunate, particularly in acquiring the esteem and confidence of the officers, as wel lby the urbanity of his manners as by the manly firmness of his character, which tended not a little to the advancement of his future fortunes. On the removal of the garrison the ensuing year to the post at Oswego, Mr. Taylor followed the camp, and although pursuing his former occupation, was frequently and successfully employed in military services, for which, nature appears to have peculiarly qualified him. In this situation, it is believed, he acquired a knowledge of the Indian language, which ever after he spoke with fluency, and by which he acquired the confidence and friendship of many of these sons of the forest; which was of singular importance in the frequent councils held with these people, of which he was usually a leading member.

On the return of the troops to Lake George, Mr. Taylor also returned, still pursuing his accustomed occupation until some time in 1771, when he married Margaret Van Valkenburgh of the city of Albany, a lady who, it would appear, had been designed by an overruling Providence to promote and secure his happiness; for the writer of this article has often heard him declare, that to her he was indebted for a very large portion of the temporal blessings which a kind Providence had so profusely bestowed upon him. By this lady he had not any issue, but, upon the death of her favourite sister, he took into his family and adopted as his own, the infant daughter of the deceased sister, who has been spared as the solace and comfort of his declining years, and the meritorious inheritrix of his ample fortune.

Some time after his marriage he retired to Stillwater, where he purchased a small farm, which he cultivated with skill and enjoyed with pleasure until the year 1773, when he removed to Albany, where he commenced mercant le business on a slender scale. Here he continued enjoying the comforts of domestick society, with means equal to his wants, when the revolution broke out, which called forth all the active energies of his mind and body

In 1775, when the unfortunate expedition to Canada was planned, General Schuyler, whose intuitive discernment and penetrating eye instantly saw that nature had designed Mr. Taylor for important services, and foreseeing the storm which was about to burst upon his devoted country, sent him into Canada to afford such aid and procure such intelligence as circumstances would admit. Here was laid the first scene of his future usefulness; for, strange as it may appear, it is no less true, that Mr. Taylor, though clothed with no military or civil authority, without either commission or command, arranged the 1st regiment of New York troops, the field officers of which had all returned themselves unfit for duty, and appointed John Graham, a captain of that regiment, as the commanding officer, to whom he issued daily orders, and disposed of the regiment as the circumstances of that eventful period appeared to him to justify.

General Schuyler, who had deservedly reposed the most implicit confidence as well in the integrity as in the talents of Mr. Taylor, had furnished him with a letter of extensive credit, with directions to procure clothing and other materials for the approaching war; but, cautious and prudent as he was, he had omitted sundry articles in his instructions, which were of the utmost importance in the then empty and barren state of our commissariat, among which was the article of *nails*, without which batteaux could not have been constructed, and without batteaux neither the troops nor baggage, ammunition nor artillery, could have been moved. This oversight the comprehensive and perspective mind of Mr. Taylor supplied; for among the variety of articles necessary for the troops, he had procured and brought over a large and general assortment of that all-important article.

Early in 1775, after his return from

Canada, he was elected a member of the provincial congress, in which his character as a profound politician was developed to great advantage; for although, as an associate with the master spirits of the age, men of towering talents and profound knowledge, he did not feel competent to take the lead in council, or charm the senate with the splendour of his elocution; yet was he universally allowed by men such as Jay, Morris, Livingston, Benson, and others, to be a man of an acute, discriminating mind, capable of taking a perspective view of every subject in debate, and to trace it through its most intricate and remote consequences. Indeed, in this he was equalled by few, surpassed by none.

In 1777 Mr. Taylor was elected a member of the Council of Safety, a situation at that period, of all others, the most delicate and important, having the superveilance of the community at large, and of the character and conduct of each individual composing that community, the duties of which required all the vigilance of the most vigilant to detect, and all the firmness of the most firm to resist and defeat the efforts of the swarm of tories with which the liberties of his country and the lives and property of its inhabitants were constantly and daringly menaced. For this duty no man whatever could have been more fortunately or more judiciously selected; for as he was indefatigable in detecting, so was he most resolute in obviating and defeating their machinations: and in this he was most singularly fortunate. One instance out of many may be given. He had, by a talent peculiarly his own, discovered that a certain lady, of high rank, and powerful connexions, residing in the neighbourhood of Albany, had been for some time in the habit of regular correspondence with her husband, an officer of high rank in the British army in Canada, by which means the most important intelligence was speedily and safely conveyed to the enemy through the agency of a confidential messenger. On this discovery Mr. Taylor made a representation to the Council, and moved that a resolution be adopted forthwith to remove the fair correspondent out of the country. To this motion an opposition was made, by some through want of firmness, by some from less virtuous motives, and by many for want of viewing the matter in a proper light. Mr. Taylor, however, in a speech calculated to excite apprehension, and at the same time to rouse resentment, prevailed; and the resolution was adopted, Mr. Taylor assuming the task of seeing it carried into execution. Such a high-handed act as that of expatriating a lady, must necessarily have excited the resentment of the British officer, who, to evince his determination to take vengeance on the mover of this offensive resolution, conveyed to him a message, in which he assured Mr. Taylor that whenever he caught him, he would instantly deliver him up to the fury of the savages. The reply which was made to this savage threat (the completion of which, alas! there was too much reason to fear,) at once displayed the mild and benevolent character of the man, the purified spirit of the christian: "If Mr. Taylor should be so fortunate as to have —— in his power, he would most assuredly treat him as a gentleman."

In this assembly of tried patriots, the faithful discharge of whose duties placed them beyond the reach of escape in the event of the failure of ultimate success—who had hazarded life and property in the defence of every thing that renders existence desirable, Mr. Taylor continued at his post, until called on to aid the deliberations of the congress that was summoned to devise and establish the first constitution of our state government. In this august body of freemen Mr. Taylor again stood forth the champion of the liberties of his country.

It cannot be supposed that a man of such extensive influence, such a daring spirit, should not have been contemplated with more than ordinary solicitude by that herd of enemies which hovered around this devoted city; or that any enterprise calculated to capture him by surprise or otherwise, should have been omitted: several such attempts were made. The writer of this article had been in the frequent habit of riding out with Mr. T. a few miles for air and exercise, a circumstance that did not pass unnoticed. In one of

these little excursions a videt detached by the enemy, under the celebrated Brandt, had taken his post on the road leading to Schenectady, (the route which was then frequently taken,) in the sure hope of effecting the capture of Mr. Taylor. Contrary, however, to the usual course, the tourists, for reasons which were never explained, suddenly determined to shorten their tour, and return back to town, by which providential circumstance his most miraculous escape was effected; for the videt, who afterwards was taken prisoner, confessed that he could have killed both, but that his orders were peremptory to take Mr. Taylor alive.

Although baffled in this and various other attempts, they did not resign all hope of effecting an object so very desirable. They concealed a small party in Mr. Taylor's stable loft, in the rear of his house, which at that time was situated near the edge of the river, in which they had placed a canoe for the purpose of transporting their intended captive to the opposite shore. In this, however, they were again defeated. It happened that one of the family servants having accidentally gone into the yard, after the family had retired, was discovered by this party, who prematurely rushed out in the hope of capturing, or entering the house with him; happily, the servant proved too quick for them, got in time enough to close the door against them and give the alarm.

These, with numerous other instances of the kind interposition of Providence to preserve a life so valuable, and talents so indispensably necessary, at a time when tyrants, and the slaves of tyrants, were polluting our shores, and spreading desolation by fire and the sword among our peaceable dwellings, surely tend to prove, even to the infidel, that the hand of Heaven had been graciously extended in our defence.

In this eventful year, when the stoutest hearts began to fail, and the publick mind appeared to be paralyzed—threatened with an army, the most formidable, numerous, and best appointed that had ever crossed the Atlantick, on the one side, and on the other, by a most relentless and powerful detachment from New York, whose object was nothing less than absolute extermination, John Taylor stood forth—clad in the panoply of an American Patriot—glancing his penetrating eye over the awful scene, and comprehending the full extent of the threatening danger—confident that freemen can only be conquered by their own supineness—determined to make one vigorous exertion to rouse every dormant spark of valour in the youth, and every languid principle of patriotism in the aged, to meet the approaching conflict. To effect this object, he wrote a circular letter, such as Leonidas would have written, and sent copies of it through the several counties and towns of the neighbouring states as well as his own. This letter was most ardently received, recopied, and forwarded immediately throughout the country—read in every town meeting, and delivered from the pulpit of every denomination of christians; and such was the electrical effect, that in a very short time the army of General Gates was filled with volunteers to overflowing—magazines of provisions abundantly supplied—the drooping spirits of the soldier revived—the confidence of the officer confirmed—and the capture of that once most formidable British army completely effected!

From that period until the close of the revolution, Mr. Taylor, constantly engaged in the political department, either in the Council, Senate or Assembly of the State, was often the channel of communication with the Commander-in-Chief, who ever considered him as his counsellor and friend. He wanted no letters of instruction; the situation of the state—her dangers—her wants—and her resources, were all so familiar to his comprehensive mind, that he could detail the whole, without the aid of written instructions; and his statements were ever implicitly credited, because they were ever found perfectly correct.

During the period between the close of the revolution and the commencement of the last war, Mr. Taylor was almost constantly returned by the freemen of the county as a member of the Legislature, either in the Senate or the Assembly: and the frequent, and almost unanimous voices of these freemen, sufficiently testify to the steady course of duties

which he uniformly pursued during the frequent and violent political storms which agitated the State to its centre; and during the utmost violence of which, as the leading member, the master-spirit of the republican party to which he was ever firmly attached, his eye was uniformly fixed upon one only object —the true ultimate happiness and prosperity of his country; and, although it is scarcely possible to suppose that amid the conflicting passions and wild disorders of the various contending parties which alternately wielded the sceptre of confusion, Mr. Taylor could have escaped the tongue of slander—the sting of reproach, or the malice of political enemies—yet it is believed that except in one solitary instance, in which his feelings were wounded, his sensibilities roused, and long and intimate friendships disruptured, from causes equally beyond his control, and without his agency—an event which he never ceased to deplore, as the most unfortunate occurrence of his life—few men have ever passed through so long and so boisterous a political career, with a character more pure and unsullied.

In 1813, during the last war, Mr. Taylor was elected by a large majority as Lieut. Governour of the State, in which situation he was continued during the term of nine years: and in consequence of the national election of Governour Tompkins, he for a few months discharged the duties of Governour of the State, to the universal satisfaction of all parties; and although the principle evinced by subsequent and recent events would have justified his holding over during the constituted term of Governour, yet in compliance with the will of the people, as expressed by their constituted authorities, he cheerfully retired from the chair of state; without a sigh of regret, or a murmur of complaint.

In this year, when the enemy were making vigorous preparations for an attack on the western frontier, the recollection of the disasters of the preceding year, and the arrangements making to repair them, appearing to his anxious and comprehensive mind to be defective in council, and languid in execution, he resolved not to stand an idle spectator of the passing occurrences of the day, which, to his mind, appeared to be pregnant with the most portentous events. Possessing an intimate knowledge of the country contemplated as the scene of action, and the formidable means of offensive operation within the reach of a powerful, enterprising and gallant enemy, although holding no rank or authority but that of a private citizen, he determined to communicate his sentiments to the Commander-in-Chief, in a letter: which, although written in the 72d year of his age, exhibited all the fire of youth, tempered with the experience of age. In this anonymous letter, the precise date of which is not ascertained, after a courteous apology to the Commander-in-Chief of the armies of the United States, and an assurance that the sole motive of the writer is to promote the interests of his country, and the honour and fame of the person addressed, he proceeds to suggest the infinite importance of the post at Sackett's Harbour for a defence of our shipping, so essentially necessary to our future operations. The strong probability that the enemy will make vigorous efforts to possess that post, the consequences of which are displayed in vivid colours —points out the facility by which such a capture may be effected by its proximity to Kingston. Presuming that the General's force is inadequate to its defence in the then state of the army, he proposes a substitute in block-houses; the utility of which he proves by the experience of former campaigns, particularly that under Gen. Wayne—modestly suggests the propriety of ordering about 600 men, uselessly stationed at Greenbush, to Sackett's Harbour; and in fact details the obvious duties of the Commander-in-Chief, with a precision rarely excelled.

In a subsequent letter, dated 7th January, 1814, directed to the Secretary of War, at that time on the frontier, after observing that "the unexpected and incalculable loss and dishonour sustained by the capture of Niagara, the ravages of the enemy on the frontier, the treachery and cowardice of one general, the hasty and ill-advised conduct of another, justify his anxiety, and must plead his apology." He suggests his

opinion of the useless if not dangerous position of the army during the winter season at French Mills, in the vicinity of an active, enterprising enemy; that although the troops stationed at that post may possibly repel an attack, yet they cannot annoy the enemy; that by removing those troops to Ogdensburg, they might make a favourable attack on Prescott, which, if taken, would greatly interrupt the communication between Upper and Lower Canada; that a vigorous attempt might be made on Kingston, and by the aid of Congreve rockets, the enemy's shipping and the town may be made to atone for the ravages on the frontier; that Sackett's Harbour, a port of infinite importance, is exposed to capture, if the enemy should unite his forces in Upper Canada, of which strong apprehensions are entertained, in which case a loss of our best seamen and marines must be the consequence. He repeats his confidence in the utility of block-houses, and urges the propriety of building two or more, as well for defence as for covering. He then hints at the prevailing mania for banks, which, in the existing scarcity of specie, he conceives would be indispensably necessary in the prosecution of the war, and urges the Secretary's influence in their favour.

From these few extracts, most imperfectly made, those, and those alone who have a knowledge of the scene of action, the state of the country, and of the contending armies, will appreciate the value and importance of the counsel contained in these letters. And when it is considered that they are the production of an individual who had passed the bounds usually allotted to human existence, we are at a loss which to admire most, the soundness of his intellect or the fervour of his patriotism.

In 1802 Mr. Taylor was elected a regent of the University; in 1814 he became ex-officio Chancellor of that learned body; and the last official act of his life was presiding at a meeting held a few days previous to his death. Thus far of his publick life and services.

You may, however, possibly expect that I, who had the happiness to enjoy his confidence, friendship, and esteem, for a period of more than half a century, and who had watched at his bed with tender anxiety during the whole of his last illness, should give you some account of his private worth, his moral character, and of the religious exercises of his mind, a few hours previous to his dissolution. I observe, then, that Mr. Taylor was a man endowed with great physical as well as intellectual powers—of a temperament mild, cheerful, and sociable—averse from any appearance of pomp and parade, though few possessed more ample means of indulgence—temperate and indifferent as to his food, and singularly so as to every kind of wines and spirituous liquors, the latter of which he always rejected, and the former he never drank, but sipped, more in the style of a youthful female than of a "bon vivant."

His philanthropy was universal, his benevolence diffusive, and his charities numerous, liberal, and judicious, in the distribution of which he ever kept in view the precept of his divine Lord and Master, "Let not your left hand know what your right hand doeth:" for some of the pensioners on his bounty were unknown to his family, until after his decease.

Born of Episcopal parents, and nurtured in the bosom of the Episcopal church, he had ever been distinguished as a firm believer in the doctrines of the christian religion, and was a regular attendant on her service in the parish church of St. Peter, in the city of Albany, in which he had for many years acted as principal warden, to which he had been a generous benefactor, and the interests and prosperity of which had been the object of his most anxious solicitude, until some time in 1814 or 1815; when, in consequence of a most unfortunate misunderstanding between her rector, vestry, and members, and conceiving himself to have been indelicately and improperly treated, he in a luckless moment withdrew himself, and associated with the *first* reformed Dutch church, to which he continued firmly attached during the remainder of his life.

For years previous to his death he had been a constant and devout student of the Bible, and never ap-

peared more happy than when one of his friends or family read to him portions of the sacred volume, or was engaged in praying with him. Of retiring and unostentatious temper, he seldom made what are usually called publick professions; but a short time previous to his decease, he expressed a desire to partake of the holy communion; but it being understood that the discipline of the dissenting churches was opposed to the administration of the communion in such instances, an application for that purpose was repressed; and before the necessary arrangements could be made with the venerable rector of St. Peter's, nature, alas! had become so exhausted as to preclude the possibility of his receiving that spiritual consolation which it is well known our holy church would most cheerfully have afforded to the dying penitent.

The day previous to his dissolution, having expressed to him my earnest desire that he would communicate to me the particular state of his mind, what were his prospects, his fears, and the grounds of his hopes and consolation, then at the close of his life, and in the near view of eternity: he expressed himself in the following terms, with strong emotion: "I have been a great and presumptuous sinner. I am utterly unworthy of the mercy of God. I deeply lament that I have suffered so many years of my life to pass away without having made the necessary preparation for this awful hour. I have no hope or expectation of the pardon of my sins or acceptance with God but in His infinite goodness and mercy, through the merits of the Lord Jesus Christ."

Having asked him if I should read a few verses of the Bible, and offer a short prayer with him, he assented with unusual earnestness. I then read and repeated a few passages, which I conceived to be applicable to his peculiar situation; and kneeling down by his bedside, I offered up (I trust with sincerity) the prayer set forth by our church for sick persons in the last extremity, in which he most devoutly joined, and clasping his hands together with a degree of ecstasy, exclaimed, "O! what a delightful prayer that is." And during the period between that and his death, the ceaseless uplifting of his hands, and the constant but inarticulate motion of his lips, left no doubt on the minds of the witnesses of this awful scene, that the ardent aspirations of his contrite heart were constantly ascending to the throne of mercy on the wings of penitence and faith. After a struggle of a few moments, his spirit fled to the God who gave it, accompanied by the supplications and prayers of his surrounding and sympathizing friends and family. And it may be worthy of remark, that during the whole period of his sickness, he never discovered the least alienation of mind—no, not for a moment.

Thus lived and thus died John Taylor, a man endowed with far more solid virtues than have been generally known, or duly appreciated. He has left a blank in society which will not easily be filled up. Let us, then, my dear friend, who survive this, and such like instances of mortality, draw the curtain of charity over the infirmities of fallen nature. Let us not put off the preparation of the heart to the eleventh hour, for we know not what that hour may bring forth. Let us endeavour to avoid the errours and emulate the virtues of those who have gone before us, and diligently prepare to follow them.

I have thus endeavoured to comply with your request. I have given you an imperfect sketch of the little incidents in the life of my friend which were within my recollection. In perusing this long letter you will doubtless perceive that (in legal parlance) I have travelled out of the record. For this, my only apology is a sincere desire to do that justice to the character of the friend of my youth, the companion of my declining years, for which I must ever regret that my slender talents are utterly unequal—well aware that incidents and anecdotes of this kind are in themselves trifling and unimportant, and can assume an interest only from the character and importance of the distinguished individual to whom they refer, or the eventful period in which they appear: such I give them: and if I shall have happily stated a fact which you may think worthy of notice, or

suggested an idea which may assist your pious labours in embalming the memory of a tried friend, a stern patriot, an honest man, and a christian with "the odours and spices" of truth, in language worthy of him and worthy of yourself, my object will have been completely effected. With my best wishes for the continuance of your health and the increase of your happiness and prosperity, I conclude in the language of the poet,

"Si novisti recitus istis,
Canidus imperti, si non, his u ate mecum."

Scarsdale. W. P.

MATTHEW THORNTON was born in Ireland in the year 1714, but came to this country with his parents when only two or three years of age. He emigrated to Maine, but soon removed with his father to the town and county of Worcester in Massachusetts. Matthew had a miscellaneous education sufficient to enable him to commence the study of physick. After being licensed he began the practice of his profession at Londonderry in New Hampshire, and soon became distinguished in that enlightened community. In 1745 he was appointed as chief surgeon to the New Hampshire troops, in the famous expedition against Lewisburgh. He acted as surgeon, physician, and soldier in this campaign, and returned home with great credit. He engaged the confidence of the royal government, but when he saw the revolutionary storm gathering, he took sides with the patriots, and boldly espoused their cause. The next year after the commencement of the war, he was sent from New Hampshire to the continental Congress, and took a bold stand with those who saw that nothing could be done until a Declaration of Independence was made. He was afterwards chosen Chief Justice of the Court of Common Pleas in New Hampshire, and then was raised to the supreme bench of the state. He served in the council of Governour Langdon for several years. His active days were devoted to the publick. He was a good farmer, and made two blades of grass grow where only one had grown before. He was a wit and satirist, but he was as often playful as severe. His invention was of a high order. He retained his faculties until he wore the snows of many winters upon his head. He expired June 24, 1832, while on a visit to his friends, in the 89th year of his age.

TECUMSEH, a chief of the Shawanese tribe, and a brigadier-general in the British army, was born in 1769; a year remarkable for the production of great men. Bonaparte, Wellington, Cuvier, Canning, Sir Walter Scott, were born in this year Tecumseh was not a Shawanese, by birth; his parents were of another tribe, as the writer of his sketch was informed by one of the most intelligent of the Cherokees. Tecumseh was one of three children at a birth; a circumstance remarkable any where, but decidedly so among the aborigines of this country, who are not very prolifick. This was considered by the tribe as portending famine; and the parents, according to a usage among them, were obliged to leave the tribe as soon as the mother was able. Her fate would have been the same had she borne twins only. She with her husband, and a few of her kin who would not forsake her, made their way to the Shawanese, and she was received by them with great kindness; for these children of the forest have an impression, that kindness to one in distress will always be rewarded by the Great Spirit; so that the errours of the imagination are corrected by the impulses of the heart. The three children were sons. They were sagacious, and early became distinguished in this tribe, and extended their fame beyond it. The eldest was killed in an attack upon Lexington, in Kentucky. He was a bold warrior. Tecumseh was the orator, and the other became a prophet, who assisted Tecumseh to keep his hold on the affections and understandings of his followers. He was the enemy of the new settlers in his country; and if he made peace from prudence, his temper was still implacable. He was in every battle but that of Tippecanoe, from the defeat of Harmer until he was slain at the battle of the Thames, which happened on the fifth of October, 1813. Tecumseh was a man of exalted talents. He saw the advantages of civilization, but knew that his race would become extinct by its influence, and he made up his mind to oppose its progress at all hazards.

His eloquence was of a high order. It was considered by his red brethren, as well as by the Americans, as bold, direct, epigrammatick, figurative, and succinct. It contained many thoughts in a few words, and those the very words which should have been used. He was vindictive and ferocious in war, and gave no quarter; but to those to whom others had extended the courtesies of war he was mild, and even generous. Like all savages he loved glory, and was susceptible of flattery; for his stern visage was softened when the writer of this notice once observed to him, that he was as tall as Alexander the great, (he had heard of Alexander,) and quite as large across the chest; he replied, "He was a great man; he died as I will not die." He was indignant at seeing the Indians sell their lands, and retiring westward. He died in defence of what he thought a just cause, and has left no equal spirit behind him in the ranks of the sons of the forest. He was just, as he was brave. On receiving a splendid sash from the governour of the Canadas, the next day he gave it to a brother chief. That he did not appear with it was noticed, and the cause inquired of. His answer was characteristick. "He has fought more battles than I have. I could not wear it where he could see it; and I will not wear any thing that all should not see." The children of the forest have passed away like the trees themselves; their days are numbered and nearly finished.

ISAIAH THOMAS, LL. D., a distinguished printer in New England, was born in Boston in 1749. He was apprenticed to a printer in Boston, when a child, and remained with him a term of eleven years. On entering into business, he set up at Newburyport with Henry Walter Tinges, and after leaving this concern, established the Massachusetts Spy at Boston. He was a bold patriot, and said what he thought; and for an article in his paper in 1771, Governour Hutchinson ordered him to appear before the council, but he did not appear. The Attorney General proffered a bill of indictment to the grand jury, which was ignored, and then he filed an information against him, but he was forced at length to give up to popular opinion.

During the war he removed to Worcester in the same state, and published his paper during that period at that place. At this place he read the first copy of the Declaration of Independence, that had come on from Congress to the state of Massachusetts by an express. He was an undeviating patriot during the whole period of the revolution, and continued his paper until 1783, when he removed to Boston and opened a bookstore under the firm of Thomas and Andrews; and had branches in many towns in the country. His son Isaiah Thomas Jun., was also in the firm. He multiplied his presses in every part of New England printed Bibles, school books, and catered well for the taste of the market in matters of common excitement. The great secret of his success, was in knowing what would do for the publick, and if his publications do not tell much for his country's taste, they certainly do for his own sagacity. His publications always payed well. His history of printing is a valuable work—he goes back to early periods of time, and is full of anecdote. He loved all things that had any thing of antiquity in them, and in the latter days of his life founded an antiquarian society at Worcester, which has already attracted much attention, and will hereafter more. In this library there are many rare volumes, besides much current literature and science. This was the first society of this kind established in this country, and deserves to be held in high regard. His collections of Bibles and Dictionaries are valuable, and the antiquary would find in the halls he has prepared for books, a rich repast. He hardly need look at a century book, as others of so much higher antiquity would be so readily brought before him. The rare books garnered up in father Thomas' collections, show how much can be done by industry and carefulness in the course of one human life, however short it may seem to the projector of any great undertaking.

Isaiah Thomas was a man of great industry, and boldness of character. He partook a little of that rude outline which was found in most of the great promoters of our independence. He risked all, he

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pledged all, and was willing at any hour to march to battle for his country's honour and safety. Whatever the world may, in cool blood, say of the prudence of these men, every one must approve of their patriotism, or at least acknowledge their hardihood. He died at Worcester on the 4th of April 1831, in the 83d year of his age, having been an active man for more than sixty-five years.

He had witnessed a most wonderful progress in the power and influence of the press in his day. When he began his apprenticeship, there were but 17 papers, and but one Magazine in the Colonies, and he lived to see more than 1200 newspapers and other periodicals in the United States.

He was a practical, useful citizen, never suffering his capital to lie idle, but employed it in doing good, by employing a great number of industrious workmen. This is true charity; it does good to many, and still leaves them a spirit of independence.

ISRAEL THORNDIKE, a distinguished merchant of Massachusetts, was born in Beverly, as one of his biographers states, in 1757, but we think a year or two before that period. He was for some years of his youth an apprentice to the cooper's trade; but his enterprise burst out while he was quite young, and at the commencement of the revolutionary war he engaged in privateering, and soon became part owner and commander of a privateer, which made many successful cruizes. He was a bold athletick commander, possessing the most unquestionable courage and superiour strength of body and mind. After the close of the war he engaged in the fisheries and foreign commerce and grew rich. When the old confederation was found deficient, and a federal constitution was proposed, Mr. Thorndike was elected from his native town one of the members of the state convention for the adoption of the constitution, and he was as efficient as any man in that body; not that he made long and learned speeches, but that he talked with the yeomanry of that body in a style of common sense which they understood, and his arguments had the desired effect.

For many years he was elected to the senate of the state, and always brought a great share of practical good sense to the question under discussion. He aspired to no grace, no ornament, but took up the subject in a clear, forcible manner, and always said something worth remembering.

From Beverly he removed to Boston, and soon took a high stand among merchants and politicians. His wealth allowed him to live in a more splendid style than any other man in the city, but there was no parade about it,—all seemed as natural as if he had been to the manner born.

He was a careful observer of the times, and when commerce began to be taxed with heavy duties, he at once invested a large portion of his large capital in manufacturing establishments, which he early saw would be the true policy of New England. His investments in real estate, shipping, or factories, were wonderfully judicious, and hundreds watched his movements believing that his pathway was safe.

In addition to other publick acts of munificence, he purchased in 1818, the library of Professor Ebeling of Hamburgh. This library contained between three and four thousand volumes of American history or kindred works. The possessor had been one of those valuable enthusiasts for the rights of man and the liberty of the nations, who had caught at, and preserved every thing relating to the history of this new world, while those on this side of the water had too often been unmindful of preserving matters of moment to their posterity. It is probable that this is the most complete collection of newspapers, pamphlets, state papers, and books relating to America, that is now extant. Mr. Jefferson had done much in this way, but Professor Ebeling much more. The publick are under lasting obligations to Mr. Thorndike for bringing this treasure to the United States.

Mr. Thorndike died May 10, 1832, at Boston. He was an active business man to the last of his life. His fortune was the largest that has ever been left in New England. Many years may pass before the publick will find another man so entirely the maker of his own fortune by strength of intellect and nerve, as

Mr. Thorndike. If it may be said that he resembled more the Amsterdam than the Florentine merchant, still his sagacity, foresight, energy, and patriotism, was not surpassed by any one of the princes of traffick that history has brought down to us.

NATHANIEL TRACY, a distinguished merchant previous, and during the revolutionary war, was born at Newbury, afterwards Newburyport, about the year 1749. He was the son of Patrick Tracy who was an opulent merchant in that place, and having a proper view of life, gave his sons the best education the country afforded. Nathaniel graduated at Harvard College 1769, and commenced business in his native town in company with Jonathan Jackson, an accomplished gentleman, and thorough merchant. The house was prosperous, and extended its concerns to a wonderful magnitude for that day. During the war of 1775 his privateers were for several years numerous and successful. He was generous and patriotick, and assisted the government with money and articles of clothing, and other necessaries for carrying on the war. He lived in a most magnificent style, having several country seats, or large farms, with elegant summer houses and fine fish-ponds, and all those matters of convenience and taste that a British nobleman might think necessary to his rank and happiness. His horses were of the choicest kind, and his coaches of the most splendid make. He expended as if fortune would be always propitious, and the thought of straitened circumstances never came across his mind. But in the last years of the war, the enemy had grown wise and sent a large proportion of small frigates and heavy gun brigs, and swept the American privateers from the ocean. The government failed to pay him; his debtors who were numerous had encountered similar difficulties, and in 1786, he was minus some millions of dollars. His splendid estates sold for a small portion of their value, and he gave up business, retiring to a large farm which had been secured to his children. Fortunately his debts were of such a magnitude that he was not pestered by a swarm of little creditors who rejoice in having a momentary power over a man once so conspicuous in society. These little vampires love to suck the blood of fallen greatness, and to show their lips red with a drop of the current from the noble veins of one who has moved in a region beyond them. Tracy was too sensitive to bear his misfortunes as a philosopher or a subdued christian. He sunk under them, and found a premature grave. He left a widow and several children, she was an elegant woman and supported her dignity to the last hour of her life. He had, when fortune smiled, built up hundreds of little men, who made sage sayings, and quoted wise saws upon his profusion in the days of his glory, a portion of which had been lavished upon themselves. He was a gentleman of polished manners and fine taste. In looking upon his houses and works of amusement at the present time, when most of them are in a state of decay, you still see the hand of taste, in every thing he did. Does not some of the surplus revenue of our country belong to those who brought their property to the shrine of their country in the hour of darkness and peril, and threw it down at the altar as a free will offering, to secure our liberty and independence? The history of those times is glanced at, and makes up the theme of the political declaimer, at every touch and turn in his pathway, but no serious examination has ever been gone into, nor will there ever be a true history of those times written. Such men saved the nation,—must they be forgotten?

SAMUEL R. TREVETT, M. D., died at Norfolk on the fifth day of November, 1822. He was in the thirty-ninth year of his age, and had just returned in the sloop of war Peacock, from a West-India cruise.

He was born at Marblehead in the county of Essex, in Massachusetts, in the year 1783. He was the son of Captain Samuel R. Trevett, who commanded a company of artillery, and was distinguished for his coolness and gallantry on the memorable 17th of June, 1775, at the battle of Bunker Hill; and who is still living, in the service of his country, an active, intelligent, and honourable old man, deeply sensitive of this affliction, in all its extent and aggravation. The deceased received

the rudiments of his education at Exeter, under the care of that excellent instructer, Benjamin Abbott, Esq. to whom New England owes much for his assiduity and talent in forming the minds and fixing the morals of her youths. This pupil of his entered Harvard University in the year 1800, and, of course, graduated in 1804. Among his classmates, Trevett was noticed for his modesty, intelligence, and affectionate disposition. Most of his college acquaintance were his fast friends, and not one of them his enemy. The best judges of the head and heart of a young man are found among the contemporaries and competitors, for they form their opinions of character before the distinctions of the world have influenced or corrupted their judgements. On leaving college Trevett pursued his professional studies with Dr. Holyoke, of Salem, and completed his medical education with the late Dr. Warren; with both of these great men he was a favourite pupil, which alone was sufficient to introduce him to notice and attention. He commenced his professional course in Boston, but, being naturally of a chivalrous cast of character, he sought and readily obtained an appointment in the medical department of the navy. He preferred this station, which promised variety and incident, to the most flattering prospects of city practice. At this time his imagination was prolifick in calling up the brightest visions of the future glories of the American navy, and, although retiring and cautious on other topicks, he was enthusiastick and eloquent on this. With these sentiments he with all his soul united his fortunes and his fame to the navy. It is not for his friends to repine, but a premature grave has been his reward.

All who have been under his professional care, from the proudest officer to the humblest sailor, have borne testimony to his fidelity, zeal, and ability in the discharge of his duty at home, on ship board, and abroad; every where, and in all situations in which he could do good, his exertions were not wanting. He saw a great deal of service; no man of his age has seen more. He was in the Constitution during her cruise just before the last war, and then had an opportunity to show his skill, humanity, and assiduity in attending the sick while a distressing and malignant disease was raging among her officers and crew. He was on board the frigate United States when she captured the Macedonian; and also in the President when she was captured by a British fleet; and, after this event, he followed the sick and wounded until they were healed, or returned to our shores. Wherever he acted, he conquered the hearts of those around him, above or below him. Hull has certified his distinguished merits; Lawrence and Perry loved him; and Decatur requested his professional attention when he was about to finish, with a sad catastrophe, the last scene in the eventful drama of a gallant life. Trevett arrived when it was too late to remonstrate or advise.

Notwithstanding his acquaintance with the gay world, and his frequent intercourse with those whose highest virtue is not caution in speech, yet he was never known to have offended any one by a free or licentious remark. At an indelicate allusion his cheeks would mantle with blushes, as sudden and deep as a vestal's, watching at the shrine of chastity and innocence. Yet this refinement had no weakness in it, for in the hour of danger his nerves were as firm as those of the bravest, and his pulse beat as regular as theirs. It was not in the heroick virtues alone that he excelled, for in him was blended every charm of the social circle of domestick life; gentle manners, conciliatory dispositions, and a desire to forget his own comforts in the happiness of others. He married, about six years since, a lady from New York, but his felicity in the connubial state was but of short duration. She died soon after the birth of a son. The child is living, but too young fully to understand his loss. May he inherit his father's virtues with a better fate.

As a politician, Trevett never suffered his opinion to interfere with his duty—as a moralist he never yielded to situation or accident; and even pecuniary temptations, which often assail men with much violence, were powerless when opposed to his invincible integrity. Without

envy he saw others surrounded by wealth and followed by fame—men who had no higher claims than himself; and his meekness was such, that *when reviled he reviled not again*. He shrunk from no danger, however appalling, when he could do good to his fellow men. One instance of this exalted cast of mind, among many which might be named, the writer of this brief memorial cannot forbear to record. He was a passenger in the steam-boat Phenix, which was burnt on lake Champlain, on the night of the 5th of September, 1819. He was among the first alarmed by the cry of fire; coming on deck he saw the general danger, and calmly took the lead in preparing the smaller boat for the safety of the passengers, and assisted the ladies to get into her, which was no easy task, for they were wild and frantick with fear, and rushed together in confusion to leave the scene of horrour. He decided when she was full, and could take no more of them with their husbands and friends. He then cut the rope which held her to the side of the burning vessel, and cast her off, without making any effort for his own personal safety, and until all the passengers had left the deck, he never took heed for himself. At this moment he saw a woman who had returned from the small boat to get some valuables she had left in the cabin, but she had gathered them too late, for when she came on deck the boat had gone. She gazed on the scene with an inexpressible look of despair, and in silence precipitated herself back into the cabin to perish. Trevett, at this crisis alone on the deck, cast his eye on the water, and saw another small boat partly full of men. The crew and a few others had taken this boat, and kept still that it might not be overloaded; she had met with some difficulty in getting clear of the vessel. He threw himself among them. He then examined the boat, and finding she had the capacity to carry several more people than she had taken, he used every argument and persuasion to induce his companions to stop and look for some of the unfortunate persons who were in the water, and that there were many in this situation he had no doubt; but selfishness and fear were opposed to his benevolent entreaties, and they would not stay an instant; but when they had reached land, he found men to go back with him in the same boat, and they had the good fortune to rescue several from destruction, who had been struggling for a long time in the water. In the first account that reached us of this sad disaster, it was stated that Dr. Trevett had perished in the flood or the flames, but Providence had not so destined him to die. Such exertions of disinterested benevolence, and such bravery, have no parallel in the hero's life. When foe meets foe, glory attends the mastery; the patriot who dies for his country, pours out his blood before a nation's eyes; and the martyr soothes his agonies at the stake by visions of immortality; but this magnanimity, this disinterested conduct in such an emergency, this thoughtlessness of self in the welfare of others, this inborn elevation, rising above rules and maxims and ordinary principles, is found but in a few only of the race of men, and should be honoured beyond the praise due to skill and bravery.

In the latter part of his life there was a soft, and, as it were, a religious melancholy diffused through all his actions. He seemed to take delight in contemplating the character of the aged, and in holding communion with those on the confines of another world. His was a high spirit, yielding with philosophical composure to circumstances which he could not control, but still unsubdued and unbroken, buoyed up by a hope that a day of redemption was at hand.

WILLIAM TUDOR, formerly charge d'affaires to the Emperour of Brazil, from this country, was born in Boston, in 1777. He graduated from Harvard College, 1796; and although very young, was among the first scholars of his class. Soon after leaving college, he travelled in Europe, and acquired a great fund of useful knowledge, without contracting the slighest touch of that manner which so often marks the travelled youth on his return to his native country. "*Sirs, I have seen, and sure I ought to know*," was no part of his manners. It must be

confessed, that he returned to his native city, warm and bright from all the lovely retreats of learning, and enlightened from the halls of science, and brought with him the noble ambition of attempting to make his countrymen turn their attention to literature and science, and to cultivate a taste for the arts. For this he changed the Anthology into a quarterly review, which was called the North American Review, and at once established a proud, and I trust, a permanent literary work for his country. It was, indeed, a great undertaking. The taste of the writers of this country had not been, at that time, well developed. There were two schools, or rather two styles then in vogue. The quaintness of a former age had, from some few incipient principles of taste, become unfashionable, and the bold, extravagant, tasteless manner of writing had followed it, except by a few who were disgusted with this style of writing, and these took a different course, and wrote with affected simplicity. They were both bad enough; one bloated, flushed, and dropsical, and the other lean, emaciated, and bloodless. Tudor was well prepared by precept and example, to correct these evils of literature; for he was not only learned, but mild, modest, and persevering. He offended none by dictatorial air, or pedantick assumption. He was not timid, however, in his course; nor did he, like most criticks, discover an unwillingness to write any thing but reviews, for fear of finding criticks in his turn, but was ready to be subject to his own rules. He wrote two or more works: two, certainly; for his own name is affixed to one, and the other was avowed by him. These works show no small share of thought, and are more remarkable for a pure and gentlemanly style.

Mr. Tudor was for several years a member of the legislature of the state of Massachusetts, and though not remarkably popular with the country members, yet he was respected by all of them. In his travels he had so disciplined his mind, that he seemed too mild for party times; and they put down for tameness and indifference, that which was the result of gentlemanly feelings and polished manners. It can be said of Mr. Tudor, that he spoke merely on those subjects in which he was most particularly interested for the commonwealth, and never uttered a word for popularity or fame. Never was there a man of more singleness of heart, or purity of motives. Some of the wise members of the legislature thought him a little romantick; but while they voted against his plans, were fully convinced that he was an honest man. Most of the matters he prepared, when in that body, have since been acted upon; and in many instances, according to his wishes at that time. There was no avarice, no corroding ambition in his soul. He was a bachelor, and only wanted an elegant competency; he asked no more; and had he possessed more, it would have been devoted to the advancement of letters and the sciences. He had been much abroad, but never lost sight of his own country; and in fact it is to be believed, that he loved it the more for residing in other countries.

This is the effect of travel upon a well regulated mind. He was a patron and friend to the Boston Athenæum, and considered Harvard University as an Alma Mater indeed. It has been said that he first suggested the erection of a monument on Bunker Hill. If this is not correct, as it cannot be, he was the mover of the plan for erecting the very monument which has been begun, and is now pretty nearly raised, and which will, in good time, be finished. He went further than the erection of a simple obelisk, to catch the gaze of the passing traveller, and prepared a temple also; not only as a repository of the archives of the country, but of the relicks o. the antiquities of it also. This was a noble plan, and will be followed up, most religiously, in due time; but the people here are in the habit of requiring the accomplishment of such great matters in too short a time.

Mr. Tudor moved in the most intellectual circles in his native city, and was distinguished for elevation, refinement, and accomplishments among its members. Such was his serenity of temper that even that most irritating of all diseases, the

gout, which with him was hereditary, and severe, never disturned his temper. He pursued his labours when the fit was upon him, and wrote with composure when his pain was almost insupportable. In 1822 Mr. Tudor was appointed consul to Lima. He was anxious for this office, not for its emoluments, for those were trifling, but he wished to read the character of that portion of the world, for he knew from its history that it must have many new features in it, and it had just come into the family of nations. He was industrious while he was consul, in collecting materials for some future work. From Lima he was sent to Brazil as charge d'affaires. In this situation he was an honour to this country. This people were soon apprised of his rank as a literary man, and highly respected him as a publick functionary. In some most critical situations he maintained the dignity of his government, and at the same time insinuated himself into the affections of the Emperour. The foreign ministers were his friends and admirers, for they found him a high-minded man, and an open, gentle, yet determined politician. Such men should be sent abroad, who are the pride of the people at home. Mr. Tudor was, from the cradle to the grave, a gentleman. He descended from a family that had been opulent for several generations, although by the changes of fortune he inherited nothing of consequence.

His father, Judge Tudor, was one of the most accomplished men of his age. He was a law student with the late patriot, John Adams, and soon after coming to the bar, was appointed judge advocate general of the army of Washington, then at Cambridge. On the close of the year 1777, he was called on to conduct the trial of Col. Henely, arrested on charges preferred by General Burgoyne, for oppression, &c. to some of his soldiers. The English general was a most accomplished scholar, and made in this trial a most eloquent and able argument in support of the charges and specifications he had brought forward. Tudor has often said that it was equal to any speech he ever heard from any one; and Burgoyne said the young American judge advocate went through his duties as a gentleman and a man of learning and good sense. Henely was acquitted.

There has been a meager report of the trial which has come down to the present generation, but from which nothing of importance as to the particulars can be learned; but one of the court some years since, informed me, as I was anxious to learn any thing of General Burgoyne, that this trial called forth on both sides very conspicuous talents. Judge Tudor has been dead only about ten years, and is remembered in Boston as one of those pleasant and intellectual men that one meets in genteel society, and who are communicative and happy, having a large circle of affectionate acquaintance. His son William was the idol of his heart, for in early youth he was of a graver mien than his father, who was truly one of the most playful and facetious men that ever gave jest to a dinner, or life to an evening party; he had one of the kindest dispositions that man ever possessed, and it shed its sweet influences every where in publick and domestick life.

The good people of Boston owe the Tudors a monument and a broad page in their literary and domestick annals.

GEORGE WASHINGTON.

There have been but few men only whose biographies were a history of their nation while they lived; Solon, Lycurgus, Alexander, and Cæsar, may perhaps put in their claims for this distinction. In their deeds were comprised the great events of the world, during the period of their existence. To these great names of antiquity, we may now add that of George Washington. His life fully written out, would not only comprise the history of his country during the time he was on the stage, but his course of policy as a warriour and statesman will be found incorporated in all that is wise or good in history at the present day. He received in his life time, and will retain for ever, the noble appellations of "*the Founder of a Republick*," and "*the Father of his Country*." He was born on the twenty-second of February, 1732, in the county of Westmoreland, and commonwealth of

Virginia. His ancestors were respectable and had been many years in this country. His instruction in his early years was domestick and scanty, but full of good discipline and sound principles. His father died when he was only ten years of age, and no opportunities were subsequently offered him to obtain the advantages of a thorough literary or scientifick education; but he was early taught to think and to act, which are the proper means of developing a character intended by nature for one of a high cast. He wasted no time on the ornaments of education; he acquired no errour of the schools; he carefully studied his mother tongue, and at an early age began to reason on things around him. His mind was naturally mathematical and philosophical. Agriculture was of course his intended pursuit, and every thing appertaining to this noble science was an object of his attention; and, as the country was wild, and much of it then unsurveyed, he prepared himself as a civil engineer to be useful to his fellow citizens, as well as to find a profitable employment for himself. At this period, the frontier of his native state, like that of most of the other American provinces, was in a constant state of alarm from the incursions of hostile Indians, often led by Frenchmen, who were masters of the science of arms, in the use of which every young man in this country was of course instructed; and to this he directed much of his attention. His form as well as his spirit was martial, and at the early age of nineteen so intensely was the publick eye directed to him as a military chieftain, that he was appointed one of the adjutant-generals of Virginia, which gave him the rank of major. Soon after this appointment, Major Washington was sent by Governour Dinwiddie to the Ohio with despatches to the French commander, who was violating the existing treaties between France and England, by erecting fortifications from Canada to New Orleans. This was an important mission; it was late in the season, and his course was through a dreary wilderness. He suffered many hardships, and experienced many hair-breadth escapes from the elements and the foe. All acknowledged that his duty was faithfully discharged, and the governour was so much pleased with the young officer, that he printed his journal by authority. This journal, which extended only to eighty days, laid the firm foundation of Washington's fame, for it gave ample proofs of great sagacity, fortitude, and a sound judgement.

The peace of Aix la Chapelle in 1748, was indeed a hollow one; it was only intended as a pause for breath. France was not only extending her fortresses, and instigating the Indians to harass the frontiers of the Provinces, by keeping up a predatory and cruel warfare on the almost defenceless colonists, but at the same time was indulging the ambitious design of subjugating the whole of North America. Washington was one of those who early saw this, and stood ready at all times, as occasion should require, to counteract the intention. No formal declaration of war had been made; but Virginia, not satisfied with having a fort so near them, determined on raising a sufficient force to repel invasion, and if the French insisted on holding fort Du Quesne, to take it, even if there was no declaration of war. Virginia mustered a small regiment, and South Carolina and New York added a company each to assist in this just undertaking. This desired object was not answered, but enough was done to show that Washington was born for a soldier. He fought all day at fort Necessity with more than double his number, and at night obtained the most favourable terms of capitulation. In fact it was rather an amnesty than a capitulation, and to him it had more than the ordinary advantages of a victory; for his fellow citizens and his soldiers had tried his talents and fortitude in disastrous circumstances. Soon after this campaign, Washington retired from the militia, in consequence of an order from the war department in England, which put those of the same military rank in the royal army over the heads of those in the Provincial. This made no small disturbance in all the Provinces, and was one remote cause of the revolutionary conflict which followed.

Early in the spring of 1755, lieu-

tenant general Braddock was sent out from England to penetrate the wilderness and reduce Fort Du Quesne. From the strong force he had brought out, and the expected assistance of the Virginia rangers, this, it was thought by the good people of Virginia, would be quite an easy affair, and the general was sure of his victory. He was near Mount Vernon to take up his line of march through the wilderness for the Ohio. Washington had, on his resignation, retired to his favourite estate, which had come to him by the death of his brother, and was enjoying a planter's life. He had frequent interviews with the general while the preparations were making for marching, and was persuaded to join the family of this officer as a volunteer aid; for the commander-in-chief was struck by the high martial air of Colonel Washington, and wished to avail himself of his services. On the march Washington was taken ill of a fever, but he would not leave the army, as he soon discovered that the general was in danger, from the common errour of thinking too little of his foe. He had never fought Indians, and held the savage in contempt. Washington advised the general to send forward the Virginia rangers to scour the wood, and to give the main body an opportunity to march to attack the fort; but this was not done. On the ninth of July, as the army were within eight or nine miles of the fort, they were furiously attacked by a body of French and Indians. The Indians were from the most fierce and warlike tribes of the west; formidable enemies in earlier days, and they now had been taught the use of the rifle, and shot with unerring precision; they were protected by woods and bushes, having with great sagacity selected their spot for an attack. The English were exposed in regular order of battle. The field officers, except Washington, were soon all either killed or wounded. After Braddock fell, mortally wounded, the regulars refused to fight, and made a shameful retreat. Washington in vain attempted to rally them. The Virginians behaved gallantly, and although sadly cut up, covered the retreat of the army from the inglorious field. Braddock died after he had been carried under the eye of Washington about forty miles on a litter; and no further attempt to take the fort was made for three years afterwards. In 1758 an expedition was sent against Du Quesne, and the command of the Virginians was given to Colonel Washington; this expedition was managed with caution, and terminated in success. At the close of this campaign Washington left the army, and was soon after married to Mrs. Custis, a most excellent woman, who, as the wife and widow of Washington, is a venerated name in the American annals, for she was intelligent and patriotick, and encouraged her husband in his course of responsibility and danger in the revolutionary war.

From the time of his marriage until 1774, Washington passed his days in the sweet pursuits of domestick life, except now and then taking upon himself those occasional duties which the peaceful agriculturist is often called, by the importunity of friends, to discharge, as a magistrate of the county, or a member of the legislature. In 1774, when the revolutionary storm was rising, he was sent from Virgnia to the continental congress. In this body he was distinguished for a well tempered zeal in the patriotick cause, and for great good sense in suggesting the proper means for national defence, if the county should be urged to extremities. He had indulged a hope that an appeal to arms might be avoided, but when the crisis came he was prepared to act. After the first scene of the drama was opened at Lexington and Concord, and an army had concentrated at Cambridge, as it were by the magick of patriotism, the eyes of congress were turned upon him as a leader of that army, and of all other forces that might be raised for national protection. He was put in nomination by the members of congress from the east, and could not be unacceptable to those of the south. It was an excellent selection in itself, as well as a master-stroke of policy to unite the east and the south in a firm bond of friendship, in the great cause now begun. Washington lost no time in idle ceremony, but hastened to join the army. He reached Cambridge on the second of

July, fifteen days after the battle of Bunker's-hill. His first orders to the army were issued on the fifth of the same month, and in a short time every thing wore a military aspect; but he had many difficulties in this new situation to overcome. On looking around him he found the army without the munitions of war, without powder enough for a half hour's fight. In this situation he showed his greatness by a most noble assumption of authority in sending abroad for supplies, and by issuing commissions to privateers to take them from the enemy. This was soon happily done by the prowess of those intrusted with authority from the commander-in-chief. Congress approved of his course in every particular.

The army was tired of being inactive; but on consulting his officers he found that they, in a body, thought it too dangerous to attack the enemy intrenched at Boston and on Bunker's-hill. The enemy was so rigidly watched that not even a solitary person could leave the town. The British commander felt that as soon as the warm weather came he must fight, and thinking that he had better find a safer place to make battle, left Boston on the seventeenth of March, 1776, and no part of the army ever again returned to Massachusetts. Washington followed the British to Long Island and New York. This campaign was so full of disasters that the great mass of the people began to despond. The continued misfortunes of the army were enough to sink the spirit of the mightiest man that ever lived, but Washington was calm and serene in the darkest hour of his troubles. With a remnant of his forces, destitute of the necessaries of life, he retired late in the autumn beyond the Delaware, but was on the watch for any enterprise that might offer. Fortune favoured him and his cause, when that cause had sunk to the depths of despair. A body of Hessians were at Trenton. Washington recrossed the river and on the morning of the twenty-sixth of December surprised and captured them, with only a small loss of men. This battle was followed up by that of Princeton, which showed equal generalship, and was more perilous. The British now began to think that they had to contend with a general full of resources and prudence. France began to acknowledge that the Provincial opposition to the mother country was systematick, and afforded some chance of success; and Frederick the Great of Prussia said on hearing of the affair of Trenton and Princeton, "The revolutionists have a general of first rate talents—they will succeed." His military reputation was now established at home and abroad. From the humblest individual in his own country to their leaders in congress, all were satisfied with the commander-in-chief, and hope never for a moment deserted his admirers and supporters in any future hour of the conflict. It is his character, not his history, that we, in these few pages shall attempt to present to our readers. This was now established. The question of success was decided. If for a season it was doubted by a few, the surrender of Burgoyne in the autumn of 1777 confirmed their shaking belief, although hardships were to be endured and difficulties conquered. Narrow finances, inclement winters, and the murmurings of unpaid soldiers, were among his troubles, yet he overcame them all, and sustained himself and his country to the close of the war. It was not the least of his difficulties to soothe a body of incensed officers, who had toiled and bled for national independence, and who were now about to depart for their homes, meanly clad and almost pennyless. Their complaints were just, and as they thickened upon him, he summoned all the energies of his mind to guide them in a course of duty, reminding them of the honour of the past and the hopes of the future. His personal influence was greater, perhaps than that of any one who ever served a republick, in which men are taught to think for themselves, and to sift most scrupulously the opinions of others. They had found him always thinking right, and acting well, and his opinion became to them a law. There were not wanting those who thought, that in justice to himself, he should stipulate, at this moment, for future honours, and fix upon himself and family some great distinctions; but he was above all this paltry feeling, and hastening to

Annapolis, where the continental congress was then in session, he, with the dignity of a high-souled patriot, resigned his commission and retired a private citizen to his beloved Mount Vernon. The politicians of Europe thought this impossible, and fully believed that he, like Cæsar, was acting with affected humility, and ventured to prophecy that he would accept the crown when thrice urged upon him; but in this they were disappointed; he asked no exclusive honours, nor would accept of any rewards; his consciousness of rectitude in the course he pursued was the best of all rewards. For three years he reposed at Mount Vernon, until the great body of the people became tired of the old confederation, and were satisfied that something more effective in the nature of government was required to meet the exigencies of their situation. In 1787, a convention of the thirteen states was called to frame a constitution. This was accepted by the people, and in 1789 it was put into operation. Washington was unanimously elected President. He had a difficult course to pursue; the nation was without funds, unsettled in plans, and soon agitated by party spirit. He called around him the able and the trusty, and laboured to make all things move on as smoothly as possible. He succeeded most admirably; from bankruptcy the national credit was established; and order and confidence grew out of confusion and distrust. In his intercourse with foreign nations he conducted his diplomacy with sagacity and firmness, and in the end made them feel the force of uprightness and direct negotiation. He allayed the agitations at home and overcome the difficulties abroad, without once committing himself on any subject, by a yielding or a time-serving policy. He performed the most minute duty as though he was acting for future ages as well as for his own times, and when once determined, his mind never suffered any vacillation. He raised no hopes that he did not gratify; he made no promises that he did not fulfil; he exacted every proper respect due to the offices he filled, whether civil or military, and rendered to others every courtesy belonging to his high station. In his administration, many of those great principles, which now govern our country, were discussed, and fixed on such a solid basis, we trust, that they can never be shaken by faction or undermined by corruption. When he was determined to retire again to private life, he issued a farewell address to the people of the United States, which will remain among them for unnumbered generations; it was full of affection, patriotism, and sound maxims of political sagacity. At the termination of his second term of the presidency, he returned to Mount Vernon to pass the remainder of his days in quiet; but when, in 1798, the United States armed by sea and land to maintain the independence they had won, he consented to act as lieutenant general of the armies, and bore the commission until his death; but never found it necessary to take the field.

On the twelfth of December, 1799, he was siezed with an inflammation in the throat, which grew worse the next day, and which terminated his life on the fourteenth, in the sixty-eighth year of his age, and in the twenty-third year of the independence of his country. No man was ever mourned so widely and sincerely as Washington. In every town and village in the United States eulogies were pronounced upon his character—sermons were preached or some mark of respect paid to his memory. It was not speaking extravagantly to say, that a nation was in tears at his death. Little children caught the sympathy and wept they hardly knew why. There have been popular men who were great in their day and generation, but whose fame soon passed away. It is not so with the fame of Washington, it grows brighter by years. He saw the character of the people he ruled over, and fashioned his course accordingly, never violating a fundamental principle for any matter of policy. He knew how to counteract the errours of the people, for he did not expect, like some politicians, to find his countrymen always right, but he had a strong belief in the redeeming spirit among them, and a firm reliance upon the protecting hand of Providence. The writings of Washington show that he had a clear, lucid mind, and will be read

with pleasure for ages to come. The publick have not as yet seen a tenth part of them, but they are in the course of publication.

JOSEPH WARREN was born in Roxbury, near Boston, in the year 1741. His father was a respectable farmer in that place, who had held several municipal offices, to the acceptance of his fellow citizens. JOSEPH, with several of his brothers was instructed in the elementary branches of knowledge, at the publick grammar school of the town, which was distinguished for its successive instructers of superiour attainments. In 1755, he entered college, where he sustained the character of a youth of talents, fine manners, and of a generous, independent deportment, united to great personal courage and perseverance. An anecdote will illustrate his fearlessness and determination at that age, when character can hardly be said to be formed. Several students of Warren's class shut themselves in a room to arrange some college affairs, in a way which they knew was contrary to his wishes, and barred the door so effectually that he could not without great violence force it, but he did not give over the attempt of getting among them, for perceiving that the window of the room in which they were assembled was open, and near a spout which extended from the roof of the building to the ground, he went to the top of the house, slid down to the eaves, seized the spout, and when he had descended as far as the window, threw himself into the chamber among them. At that instant the spout, which was decayed and weak, gave way and fell to the ground. He looked at it without emotion, said that it had served his purpose, and began to take his part in the business. A spectator of this feat, and narrow escape, related this fact to me in the college yard, nearly half a century afterwards, and the impression it made on his mind was so strong, that he seemed to feel the same emotion, as though it happened but an hour before.

On leaving college in 1759, Warren turned his attention to the study of medicine, under the direction of Doctor LLOYD, an eminent physician of that day, whose valuable life has been protracted almost to the present time. Warren was distinguished very soon after he commenced practice; for when in 1764, the small-pox spread in Boston, he was among the most successful in his method of treating that disease, which was then considered the most dreadful scourge of the human race, and the violence of which had baffled the efforts of the learned faculty of medicine from the time of its first appearance. From this moment he stood high among his brethren, and was the favourite of the people. and what he gained in their good will, he never lost. His personal appearance, his address, his courtesy and his humanity, won the way to the hearts of all, and his knowledge and superiority of talents secured the conquest. A bright and lasting fame in his profession, with the attendant consequences, wealth and influence, were within his reach, and near at hand; but the calls of a distracted country were paramount to every consideration of his own interests, and he entered the vortex of politics, never to return to the peaceful course of professional labour.

The change in publick opinion had been gradually preparing the minds of most men for a revolution. This was not openly avowed; amelioration of treatment for the present, and assurances of kindness in future, were all that the colonies asked from Great Britain—but these they did not receive. The mother country mistook the spirit of her children, and used threats when kindness would have been the best policy. When Britain declared her right to direct, govern, and tax us in any form, and at all times, the colonies reasoned, remonstrated and entreated for a while; and when these means did not answer, they defied and resisted. The political writers of the province had been active and busy, but they were generally screened by fictitious names, or sent their productions anonymously into the world; but the time had arrived when speakers of nerve and boldness were wanted to raise their voices against oppression in every shape. Warren possessed first rate qualities for an orator, and had early declared in the strongest terms

his political sentiments, which were somewhat in advance of publick opinion, for he held as tyranny all taxation, which could be imposed by the British parliament upon the colonies. In times of danger, the people are sagacious, and cling to those who best can serve them, and every eye was on him in every emergency, for he had not only the firmness and decision they wished for in a leader, but was prudent and wary in all his plans. His first object was to enlighten the people, and then he felt sure of engaging their feelings in the general cause. He knew when once they began, it would be impossible to tread back—independence only would satisfy the country. With an intention of directing publick sentiment, without appearing to be too active, he met frequently with a considerable number of substantial mechanicks, and others in the middling classes of society, who were busy in politicks. This crisis required such a man as they found him to be, one who could discern the signs of the times, and mould the ductile materials to his will, and at the same time seem only to follow in the path of others. His letter to Barnard, which attracted the notice of government, had been written several years before, in 1768; but in some form or other he was constantly enlightening the people by his pen; but it is now difficult, and of no great importance, to trace him in the papers of that period. The publick was not then always right in designating the authors of political essays. In the different situations in which he was called to act, he assumed as many characters as fable has ever given to the tutelar god of his profession, and like him, in every one of them he retained the wisdom to guide, and the power to charm. At one time he might be found restraining the impetuosity, and bridling the fury of those hot-headed politicians, who felt more than they reasoned, and dared to do more than became men. Such was his versatility, that he turned from these lectures of caution and prudence, to asserting and defending the most bold and undisguised principles of liberty, and defying in their very teeth the agents of the crown. Twice he was elected to deliver the oration on the 5th of March, in commemoration of the *massacre*, and his orations are among the most distinguished produced by that splendid list of speakers who addressed their fellow citizens on this subject, so interesting to them all. In these productions generally the immediate causes of this event were overlooked, and the remote ones alone were discussed. Here they were on safe ground, for tyranny in its incipient stages has no excuse from opposition; but in its march it generally finds some plausible arguments for its proceedings, drawn from the very resistance it naturally produces. These occasions gave the orators a fine field for remark, and a fair opportunity for effect. The great orators of antiquity in their speeches attempted only to rouse the people to retain what they possessed. Invective, entreaty, and pride had their effect in assisting these mighty masters to influence the people. They were ashamed to lose what their fathers left them, won by their blood, and so long preserved by their wisdom, their virtues and their courage. Our statesmen had a harder task to perform, for they were compelled to call on the people to gain what they had never enjoyed—an independent rank and standing among the nations of the world.

His next oration was delivered March 6th, 1775. It was at his own solicitation that he was appointed to this duty a second time. The fact is illustrative of his character, and worthy of remembrance. Some British officers of the army then in Boston had publickly declared that it should be at the price of the life of any man to speak of the event of March 5, 1770, on that anniversary. Warren's soul took fire at such a threat, so openly made, and he wished for the honour of braving it. This was readily granted, for at such a time a man would probably find but few rivals. Many who would spurn the thought of personal fear, might be apprehensive that they would be so far disconcerted as to forget their discourse. It is easier to fight bravely, than to think clearly or correctly in danger. Passion sometimes nerves the arm to fight, but disturbs the regular current of thought. The

day came, and the weather was remarkably fine. The Old South Meeting-house was crowded at an early hour. The British officers occupied the aisles, the flight of steps to the pulpit, and several of them were within it. It was not precisely known whether this was accident or design. The orator with the assistance of his friends made his entrance at the pulpit window by a ladder. The officers seeing his coolness and intrepidity, made way for him to advance and address the audience. An awful stillness preceded his exordium. Each man felt the palpitations of his own heart, and saw the pale but determined face of his neighbour. The speaker began his oration in a firm tone of voice, and proceeded with great energy and pathos. Warren and his friends were prepared to chastise contumely, prevent disgrace, and avenge an attempt at assassination.

The scene was sublime; a patriot in whom the flush of youth, and the grace and dignity of manhood were combined, stood armed in the sanctuary of God, to animate and encourage the sons of liberty, and to hurl defiance at their oppressors. The orator commenced with the early history of the country, described the tenure by which we held our liberties and property—the affection we had constantly shown the parent country, and boldly told them how, and by whom these blessings of life had been violated. There was in this appeal to Britain—in this description of suffering agony and horror, a calm and high-souled defiance which must have chilled the blood of every sensible foe. Such another hour has seldom happened in the history of man, and is not surpassed in the records of nations. The thunders of Demosthenes rolled at a distance from Philip and his host—and Tully poured the fiercest torrent of his invective when Catiline was at a distance and his dagger no longer to be feared, but Warren's speech was made to proud oppressors, resting on their arms, whose errand it was to overawe, and whose business it was to fight.

If the deed of Brutus deserved to be commemorated by history, poetry, painting, and sculpture, should not this instance of patriotism and bravery be held in lasting remembrance? If he

"That struck the foremost man of all this world."

was hailed as the first of freemen, what honours are not due to him, who undismayed bearded the British lion, to show the world what his countrymen dared to do in the cause of liberty? If the statue of Brutus was placed among those of the gods, who were the preservers of Roman freedom, should not that of Warren fill a lofty niche in the temple reared to perpetuate the remembrance of our birth as a nation?

If Independence was not at first openly avowed by our leading men at that time, the hope of attaining it was fondly cherished, and the exertions of the patriots pointed to this end. The wise knew that the storm which the political Prosperos were raising, would pass away in blood. With these impressions on his mind, Warren for several years was preparing himself by study and observation to take a conspicuous rank in the military arrangements which he knew must ensue.

On the 18th of April, 1775, by his agents in Boston, he discovered the design of the British commander to seize or destroy our few stores at Concord. He instantly despatched several confidential messengers to Lexington. The late venerable patriot, Paul Revere, was one of them. This gentleman has given a very interesting account of the difficulties he encountered in the discharge o. his duty. The alarm was given, and the militia, burning with resentment, were, at day-break, on the 19th, on the road to repel the insult and aggression. The drama was opened about sunrise, within a few yards of the house of God in Lexington. Warren hastened to the field of action, in the full ardour of his soul, and shared the dangers of the day. While pressing on the enemy, a musket ball took off a lock of his hair close to his ear. The lock was rolled and pinned, after the fashion of that day, and considerable force must have been necessary to have cut it away. The people were delighted with his cool, collected bravery, and already considered him as a leader, whose gallantry they were to admire, and in whose talents they

were to confide. On the 14th of June, 1775, the Provincial Congress of Massachusetts made him a major-general of their forces, but previous to the date of his commission, he had been unceasing in his exertions to maintain order and enforce discipline among the troops, which had hastily assembled at Cambridge, after the battle of Lexington. He mingled in the ranks, and by every method and argument strove to inspire them with confidence, and succeeded in a most wonderful manner in imparting to them a portion of the flame which glowed in his own breast. At such a crisis genius receives its birth-right—the homage of inferiour minds, who are for self-preservation are willing to be directed. Previous to receiving the appointment of major-general, he had been requested to take the office of physician-general to the army, but he chose to be where wounds were to be made, rather than where they were to be healed. Yet he lent his aid and advice to the medical department of the army, and was of great service to them in their organization and arrangements.

He was at this time President of the Provincial Congress, having been elected the preceding year a member from the town of Boston. In this body he discovered his extraordinary powers of mind, and his peculiar fitness for responsible offices at such a juncture. Cautious in proposing measures, he was assiduous in pursuing what he thought, after mature deliberation to be right, and never counted the probable cost of a measure, when he had decided that it was necessary to be taken. When this Congress, which was setting at Watertown, adjourned for the day, he mounted his horse and hastened to the camp. Every day "he bought golden opinions of all sorts of men;" and when the troops were called to act on Breed's Hill, he had so often been among them, that his person was known to most of the soldiers.

Several respectable historians have fallen into some errours in describing the battle in which he fell, by giving the command of the troops on that day to Warren, when he was only a volunteer in the fight. He did not arrive on the battle ground until the enemy had commenced their movements for the attack. As soon as he made his appearance on the field, the veteran commander of the day, Colonel Prescott, desired to act under his direction, but Warren declined taking any other part than that of a volunteer, and added that he came to learn the art of war from an experienced soldier, whose orders he should be happy to obey. In the battle he was armed with a musket, and stood in the ranks, now and then changing his place to encourage his fellow soldiers by words and example. He, undoubtedly, from the state of hostilities, expected soon to act in his high military capacity, and it was indispensable, according to his views, that he should share the dangers of the field as a common soldier with his fellow citizens, that his reputation for bravery might be put beyond the possibility of suspicion. The wisdom of such a course would never have been doubted, if he had returned in safety from the fight. In such a struggle for independence, the ordinary rules of prudence and caution could not govern those who were building up their names for future usefulness by present exertion. Some maxims drawn from the republican writers of antiquity were worn as their mottoes. Some precepts descriptive of the charms of liberty, were ever on their tongues, and some classical model of Greek, or Roman patriotism was constantly in their minds. Instances of great men mixing in the ranks of common soldiers, were to be found in ancient times, when men fought for their altars and their homes. The cases were parallel, and the examples were imposing. When the battle was decided, and our people fled, Warren was one of the last who left the breast-work, and was slain within a few yards of it as he was slowly retiring. He probably felt mortified at the event of the day, but had he known how dearly the victory was purchased, and how little honour was gained by those who won it, his heart might have been at rest. Like the band of Leonidas, the vanquished have received by the judgement of nations, from which there is no appeal, the imperishable laurels of victory. His death brought a sickness to the heart of the community, and the people mourned his

fall, not with the convulsive agony of a betrothed virgin over the bleeding corse of her lover—but with the pride of the Spartan mother, who in the intensity of her grief, smiled to see that the wounds whence life had flown, were on the breast of her son —and was satisfied that he had died in defence of his country. The worth of the victim, and the horrour of the sacrifice gave a higher value to our liberties, and produced a more fixed determination to preserve them.

The battle of Bunker's-hill has often been described, and of late its minutest details given to the publick, but never was the military, moral and political character of that great event more forcibly drawn, than in the following extract from the North American Review, for July, 1818.

"The incidents and the result of the battle itself were most important, and indeed most wonderful. As a mere battle, few surpass it in whatever engages and interests the attention. It was fought on a conspicuous eminence, in the immediate neighbourhood of a populous city; and consequently in the view of thousands of spectators. The attacking army moved over a sheet of water to the assault. The operations and movements were of course all visible and all distinct. Those who looked on from the houses and heights of Boston had a fuller view of every important operation and event, than can ordinarily be had of any battle, or than can possibly be had of such as are fought on a more extended ground, or by detachments of troops acting in different places, and at different times, and in some measure independently of each other. When the British columns were advancing to the attack, the flames of Charlestown, (fired as is generally supposed, by a shell,) began to ascend. The spectators, far out-numbering both armies, thronged and crowded on every height and every point which afforded a view of the scene, themselves constituted a very important part of it.

"The troops of the two armies seemed like so many combatants in an amphitheatre. The manner in which they should acquit themselves, was to be judged of, not as in other cases of military engagements, by reports and future history, but by a vast and anxious assembly already on the spot, and waiting with unspeakable concern and emotion the progress of the day.

In other battles the *recollection* of wives and children, has been used as an excitement to animate the warriour's breast and nerve his arm. Here was not a mere recollection, but an actual *presence* of them, and other dear connexions, hanging on the skirts of the battle, anxious and agitated, feeling almost as if wounded themselves by every blow of the enemy, and putting forth as it were, their own strength, and all the energy of their own throbbing bosoms, into every gallant effort of their warring friends.

"But there was a more comprehensive and vastly more important view of that day's contest, than has been mentioned,—a view, indeed, which ordinary eyes, bent intently on what was immediately before them, did not embrace, but which was perceived in its full extent and expansion by minds of a higher order. Those men who are at the head of the colonial councils, who had been engaged for years in the previous stages of the quarrel with England, and who had been accustomed to look forward to the future, were well apprised of the magnitude of the events likely to hang on the business of that day. They saw in it not only a battle, but the beginning of a civil war, of unmeasured extent and uncertain issue. All America and all England were likely to be deeply concerned in the consequences. The individuals themselves, who knew full well what agency they had had, in bringing affairs to this crisis, had need of all their courage;—not that disregard of personal safety, in which the vulgar suppose true courage to consist, but that high and fixed moral sentiment, that steady and decided purpose, which enables men to pursue a distant end, with a full view of the difficulties and dangers before them, and with a conviction, that, before they arrive at the proposed end, should they ever reach it, they must pass through evil report as well as good report, and be liable to obloquy, as well as to defeat.

"Spirits, that fear nothing else, fear disgrace; and this danger is ne-

cessarily encountered by those who engage in civil war. Unsuccessful resistance is not only ruin to its authors, but is esteemed, and necessarily so, by the laws of all countries, treasonable. This is the case, at least till resistance becomes so general and formidable, as to assume the form of regular war. But who can tell, when resistance commences, whether it will attain even to that degree of success? Some of those persons who signed the Declaration of Independence in 1776, described themselves as signing it, "as with halters about their necks." If there were grounds for this remark in 1776, when the cause had become so much more general, how much greater was the hazard, when the battle of Bunker's-hill was fought?

"These considerations constituted, to enlarged and liberal minds, the moral sublimity of the occasion; while to the outward senses the movement of the armies, the roar of artillery, the brilliancy of the reflection of a summer's sun, from the burnished armour of the British columns, and the flames of a burning town, made up a scene of extraordinary grandeur."

This eminence has become sacred ground. It contains in its bosom the ashes of the brave who died fighting to defend their altars and their homes. Strangers from all countries visit this spot, for it is associated in their memories with Marathon and Platæa, and all mighty struggles of determined freemen. Our citizens love to wander over this field—the aged to awake recollections, and the youthful to excite heroick emotions. The battle-ground is now all plainly to be seen—the spirit of modern improvement, which would stop the streams of Helicon to turn a mill, and cause to be felled the trees of Paradise to make a rafter, has yet spared this hallowed height.

If "the days of chivalry be gone for ever," and the high and enthusiastick feelings of generosity and magnanimity be not so widely diffused as in more heroick ages, yet it cannot be denied but that there have been, and still are, individuals whose bosoms are warmed with a spirit as glowing and ethereal as ever swelled the heart of "mailed knight," who, in the ecstasies of love, religion and martial glory, joined the war-cry on the plains of Palestine, or proved his steel on the infidel foe. The history of every revolution is interspersed with brilliant episodes of individual prowess. The pages of our own history, when fully written out, will sparkle profusely with these gems of romantick valour.

The calmness and indifference of the veteran "in clouds of dust and seas of blood," can only be acquired by long acquaintance with the trade of death; but the heights of Charlestown will bear eternal testimony how suddenly in the cause of freedom the peaceful citizen can become the invincible warriour—stung by oppression, he springs forward from his tranquil pursuits, undaunted by opposition, and undismayed by danger, to fight even to death for the defence of his rights. Parents, wives, children, and country, all the hallowed properties of existence, are to him the talisman that takes fear from his heart, and nerves his arm to victory.

In the requiem over those who have fallen in the cause of their country, which

"Time with his own eternal lips shall sing,"

the praises of Warren shall be distinctly heard.

The blood of those patriots who have fallen in the defence of Republicks has often "cried from the ground" against the ingratitude of the country for which it was shed. No monument was reared to their fame; no record of their virtues written; no fostering hand extended to their offspring—but they and their deeds were neglected and forgotten. Towards Warren there was no ingratitude—our country is free from this stain. Congress were the guardians of his honour, and remembered that his children were unprotected orphans. Within a year after his death, Congress passed the following resolutions.

"That a monument be erected to the memory of General Warren, in the town of Boston, with the following inscription:—

IN HONOUR OF

JOSEPH WARREN,

MAJOR GENERAL OF MASSACHUSETTS BAY.

HE DEVOTED HIS LIFE TO THE LIBERTIES OF HIS COUNTRY,

AND IN BRAVELY DEFENDING THEM,

FELL AN EARLY VICTIM IN THE

BATTLE OF BUNKER HILL,

JUNE 17, 1775.

The Congress of the United States, as an acknowledgement of his services and distinguished merit, have erected this monument to his memory.

It was resolved likewise, "That the eldest son of General Warren should be educated from that time at the expense of the United States." On the first of July, 1780, Congress recognising these former resolutions, further resolved, "That it should be recommended to the Executive of Massachusetts Bay to make provision for the maintenance and education of his three younger children. And that Congress would defray the expense to the amount of the half pay of a major general, to commence at the time of his death, and continue till the youngest of the children should be of age." The part of the resolutions relating to the education of the children, was carried into effect accordingly. The monument is not yet erected, but it is not too late. The shade of Warren will not repine at this neglect, while the ashes of Washington repose without gravestone or epitaph.

COL. SAMUEL WARD. The name of Ward is eminently conspicuous in the annals of our colonial government; and in the transactions which marked the commencement, progress, and termination of the American revolution. Richard Ward was Secretary to the colony of Rhode Island from 1714 to 1733, and succeeded Wanton as Governour in 1740. A son of his, Thomas Ward, was a ripe scholar. No small portion of his library with his manuscript annotations, is still preserved in the Redwood library at Newport. He also was Secretary of Rhode Island from 1746 until the time of his death in December, 1766. Samuel Ward, a brother of the preceding Thomas Ward, was long distinguished as a patriot; he held the office of Chief Justice of the Supreme Court of that State for many years, and was chosen Governour in 1762, 1765 and 1766. A party contest was waged between Governours Ward and Hopkins for a long time, on the subject of paper money, without involving any special vital principle according to the views of more modern politicians, and in this contest, at times, each party alternately seems to have been successful. In this memorable dispute, Governour Ward evinced and maintained those whiggish principles which afterwards blazed forth in the colonial struggles which marked the beginning of the revolutionary trial.

Upon the breaking out of the revolution, he was strenuous in the cause of freedom, and was elected to the Congress of 1774. In this patriotick assembly he was an ardent, intrepid, and decided member, and boldly hazarded the doctrine of the freedom ultimately, of the American colonies from the control of the mother country. With his colleague, the venerable Samuel Hopkins, he met at Philadelphia, on the 15th of September of that year, in order to consult upon proper measures to obtain a repeal of the several acts of the British parliament for levying taxes on his majesty's subjects in America, without their consent; and to discuss the proper means in order to establish the rights and liberties of the colonies upon a just and solid foundation. His intimate acquaintance with his personal friend and neighbour, Nathaniel Greene, who subsequently became the eminent soldier, led him to hold repeated discussions with that meritorious character on this bold and hazardous project; and in the correspondence maintained between them, we find not merely the belief that the colonies might arm in self-defence, but that the period would arrive when independence itself might and ought to be declared. So entirely did these patriotick men coincide in this view of the approaching crisis in American affairs, (doctrines by the way, almost too early broached

to receive the popular impulse,) that we find in the letter addressed to him by General Greene, bearing date, camp of Prospect Hill, June 4, 1775, the following opinions: "All the forces in America should be under one commander, raised and appointed by the same authority, subjected to the same regulations, and ready to be detached wherever occasion may require."—Again, "Permit me then to recommend from the sincerity of my heart, ready at all times to bleed in my country's cause, a *declaration of independence.*

Gov. Ward's name would unquestionably have been found among that list of heroes who signed the charter of our rights, the act declaratory of the independence of their country, had not his life been suddenly and unexpectedly cut off, by the small-pox, in March 1776. Governour Ward was distinguished for his inflexible integrity and Christian virtues. His intrepidity could not be surpassed. Impossibility was a word not found in his vocabulary.

Henry Ward, brother of the preceding, was a member of the Congress which convened at New York in 1765. He was the successor of his brother Thomas as Secretary of Rhode Island. When Wanton, the Tory Governour, refused to sign the commissions for the officers of the Rhode Island brigade, destined for the siege of Boston, Henry Ward assumed the responsibility as secretary. Like his brother Samuel, he was a strenuous, intrepid, and uncompromising supporter of the revolution. He discharged the duties of Secretary until his death, in December, 1797. It is a circumstance deserving of passing notice, that the father and two sons, held the office of Secretary, for a period of seventy years of the last century.

Col. Samuel Ward, son of Governour Samuel Ward, was born at East Greenwich, Rhode Island, on the 17th of November, 1756. He was the second of five sons. After the usual preliminary studies, most of which he prosecuted under the care of his accomplished and excellent father, he was admitted a student of Rhode Island College, now called Brown University, then under the presidency of Dr. Manning, and received the honours of the institution before he had arrived at his 15th year; and thus at a period of life when most young men are but commencing the business of existence, we find young Ward ready to embark in the perilous contest then about to ensue. Born at a period which seems to have been particularly assigned for the discussion of civil and political rights, he was early imbued with the principles of republicanism. "*These Colonies are destined to an early independence, and you will live to see my words verified,*" was the recorded declaration of his father, Governour Samuel Ward, as early as the year 1766; a prophecy which was fulfilled ten years after, by the *Declaration*. With such pupilage, and such principles, the lessons of freedom could not be lost on an obedient and deserving son. Accordingly, Col. Ward, was enrolled in the volunteer company instituted for the purposes of military instruction in Rhode Island, and denominated the "*Kentish Guards,*" in 1774. It was to this company that the American army owed some of its brightest ornaments:—*Flagg*, *Thayer*, *Olney* and the two *Greenes*;

"Scipiades——————duo fulmina belli."—

On the breaking out of the war, Col. Ward was appointed a Captain in the Rhode Island Army of Observation, at the early age of eighteen years, and in that capacity joined the camp at Cambridge; nor was it long before an opportunity offered to test the mettle and the fortitude of the most daring and enterprising spirits there assembled. In September 1775, General Arnold was invested with the command of eleven hundred volunteers destined to penetrate to Quebec through an unexplored wilderness, and by the route of the Kennebec river. Captain Ward shared the honours and the perils of that magnanimous enterprise. The annals of the revolution furnish nothing more heroick than this early essay of American courage. Honourably as it has been commended in history, its difficulties, dangers, and privations can never be sufficiently appreciated. We read of the passage of the Alps, in ancient and modern story, with a just sentiment of admiration: yet, is it not certain, that the privations, if no

the difficulties of those enterprises were far surpassed in the expedition of Arnold? Their batteaux (we are told) had to be dragged by the soldiers over water-falls, portages and rapid streams; and such part of the march as was not aided by rivers, was performed, for a distance of more than 300 miles, through thick woods, over lofty mountains and deep morasses. A part of the detachment actually abandoned the undertaking and returned to Cambridge to avoid starvation. Captain Ward was one of those who persevered, and who, (after subsisting upon dogs and reptiles, and devouring their very cartridge boxes and shoes, to appease the torments of hunger)—arrived before Quebec in the month of December, 1775. He was present at the attack of the city by escalade; when sharing in the misfortunes, as he had in the privations and the honours of the expedition, he was made prisoner, with the principal part of the detachment. In 1776 he was exchanged as a prisoner, and in 1777 was commissioned as a major in Col. Christopher Greene's regiment of the Rhode Island line of the Continental army, and in that capacity was present, that year, and co-operated in the defence of the fort at the Red-bank upon the Delaware, when it was attempted to be stormed by the Hessians under Count Donop on the 22d of October. In 1778 Col. Ward had the honour to participate in the military operations of Generals Greene, Lafayette and Sullivan, in his native state. In the celebrated retreat from Rhode Island, he commanded a regiment, although he was not commissioned as Lieut. Colonel until the next year. From 1779 to 1781 he shared in the operations of Gen. Washington's army in the Jerseys, and (if we are not misinformed) was present at the defence of the bridge at Springfield, by a part of the Rhode Island line, against the Hessian General Knyphausen, in June 1780.

At the termination of the war he participated in the glorious self-denial manifested by the officers of the patriot army, and returned to the peaceful occupations of a citizen, with the same ease as he had made arms his profession seven years before. Then was witnessed a spectacle far more magnanimous and imposing than the achievements of Bennington, Yorktown, or Saratoga: Washington to his farm; Knox to his merchandise; Hamilton to the peaceful study of the municipal law: unpensioned, unrewarded, saving by the honour and applause of their countrymen!

The subject of these remarks now began the world as a citizen, in the business of a merchant; and, as enterprise had previously marked his character, so it continued to display itself in his subsequent life. Col. Ward was an adventurer in the first vessel that bore the new republican flag to the China seas: he made a voyage from Providence to Canton in the spring of 1783. Upon his return to his native country he established himself as a merchant in the city of New York, where his probity, frugality, and attention to business, soon gave success to his enterprise. He was not, however, exempt from the vicissitudes of fortune, incident to commerce; and a season of disaster, forced him to make a voyage to Europe for the purpose of accommodating his affairs: and in the subsequent adjustment of his business, he evinced throughout, the strictest integrity, and honour; no one ever having cause to regret the sacrifice of a farthing of loss. Nor was his observing eye unemployed in the contemplation of human society as there exhibited. In after life his conversation, at all times interesting, was rendered peculiarly attractive to all, who enjoyed an intimacy with him, by the discrimination with which he commented upon what he had seen and met with abroad. The politics and the military operations of the revolution shared also among the topicks, that were most agreeable to his mind: but rarely, if ever, did he allude to the actions in which himself had borne a part. That modesty, which was so particularly striking in the military men of the revolution, made an essential part of his character:—this virtue of WASHINGTON was too deeply impressed upon the character of those who stood around him, for ever to be effaced: "*neque deleri possit, aut direllere, qui ejus statuam non imminuerit.*"

On his return from Europe Col. Ward established himself on a farm at East Greenwich, where he lived to see his children educated to usefulness around him; and as several of these had embarked in business at New York, he was induced about 16 years since (in order to be nearer to them) to remove to the neighbourhood of that city. Accordingly he disposed of his farm at East Greenwich, and purchased one at Jamaica, Long Island. There he lived in the midst of his family and friends in the full enjoyment of peace, of filial love, and of honour. In early life he had married a daughter of William Greene, Esq. Governour of Rhode Island, thereby connecting himself by a double relationship with the eminent soldiers of that name. This excellent woman, he survived but a short time. Upon her death he began to feel the necessity of an entire abstraction from business and the cares of life, and accordingly removed to the city of New York. Here, surrounded by his children, he continued a patriarch amongst them, whose look was wisdom and whose word was law. Blessed with a vigorous constitution, it was to have been hoped that death would have delayed his summons, even at his advanced age. But "in the midst of life we are in death!"—the insatiate archer came, but found not his victim unprepared. A philosopher from principle, and a moralist from habit as well as reflection, "*constans et libers fatum excepit*," and joined his glorious compeers beyond the grave!

It has sometimes been the subject of regret, that one who like Col. Ward, so well practically knew the story of our revolutionary struggle, did not commit to an enduring record the interesting facts which he possessed. Col. W. was averse to writing; and it was only in the circle of his most intimate friends, that he ever alluded to the times that tried men's souls. His mind was of a superiour order, richly stored with historical details: his classical attainments, which he cultivated through his whole life, with increased gratification and delight, and his strict regard for truth, would have enabled him to furnish a memorial of singular advantage to the future historians of his country.—Col. Ward died at his residence in the city of New York, on the 16th of August, 1832. He was rarely subjected to the trials of severe sickness. He continued in active exercise until some few days previous to his fatal illness, when he was seized with an acute bilious attack: he soon foresaw the issue, and after a short illness, surrounded by his sympathizing family, closed a life of usefulness and honour, in the 70th year of his age. He had survived for many years as the oldest graduate of his college. His remains were followed to their place of interment, in St. Thomas' Church, by his friends and the surviving members of the venerable society of the Cincinnati, who bore publick testimony to his worth as a man, and his services as a soldier.

ALEXANDER WILSON, the ornithologist and poet, was born in Paisley in the west of Scotland. His father was a poor, honest man, and did all he could for his son Sandy, but this was no more than to bind him to a common school, where, among other matters, he acquired a little Latin, and the elements of mathematicks. There is no proof that he was any thing more than an ordinary boy at that time. From his school he was put an apprentice to a weaver, and served a regular time at his trade; but while in this employment he had some visitings from the Muse, as he thought, and began to feel, from reading old magazines and other miscellaneous books, that he was destined to be a tenant in common of Parnassus. The success of Burns inflamed him to write, and a youthful poet seldom thinks of keeping his productions "nine years." Not exactly liking his trade, he assumed a new vocation, that of a pedler, to sell goods, and study human nature; and to collect new images for future poetical works, but he did not know how to change his penny to advantage. He published a volume of his poems which did not benefit himself or his printer. In days of high political excitement he took part with the lower order, and before he was aware of it, was brought up for a libel upon some wealthy fool who was playing the aristocrat. He felt himself degraded by the sentence pronounced upon him, which was to throw his own libel into the fire, and

then march to prison. This wound given to his patriotism and pride rankled in his bosom, and as soon as he could make arrangements to embark, he sailed for the United States. He reached this country in 1794, but such were his narrow fortunes that he landed in a pennyless state; but nothing daunted, he began his trade of peddling from Philadelphia, and took his way to Virginia, and while dealing out his humble wares, was studying man as a social being, but he was more successful in reading nature, particularly as seen "*in the fowls of heaven*," than in vending his pack load. Coming back to Pennsylvania, he opened a school, and soon got tired of that business, and broke up, and peddled again, but this again being found unprofitable, he turned once more to the duties of a teacher, and acted the surveyor, a rank at that time one grade higher than a common school-master, at the same time he had beings under his instruction. While engaged in this last school, he chanced to be near the botanick garden of the venerable William Bartram, and became acquainted with the proprietor, and formed a professional intimacy with him. Bartram discovered Wilson's love for natural history, and gave him every facility in his power to make him a naturalist. He found great fault with all the drawings of birds he had seen, and set about learning to draw himself, that he might pursue his course independently. After a while he succeeded most admirably, and this encouraged him to go on. At this time he wrote for the "LITERARY MAGAZINE," then conducted by Charles Brockden Brown, the famous novelist. He at the same time, or soon afterwards, wrote for the Port Folio, then edited by Joseph Dennie, one of the most tasteful scholars of the age. Dennie was among the first who gave Wilson celebrity as an author and a lover of natural history; but contributions to literary journals, at that time, were only paid in praise, an unsubstantial thing, totally destitute of the power of appeasing hunger. In October 1804, Wilson set out on a tour to visit the falls of Niagara. He wrote this tour in verse, and called his work "THE FORESTERS." If there are some halting lines in this work, it is graphick and abounds in touches of genius. He now became for a while a traveller; but in 1806, Samuel F. Bradford, Esq. an enterprising bookseller and publisher, engaged Wilson as assistant editor of Rees's New Encyclopædia. In this vocation he laboured with assiduity for nearly two years, but his heart yearned to be again engaged in his favourite pursuit, and he opened his mind to Bradford, and showed how much he had done in the way of ornithology. Bradford encouraged him to go on, and offered to become the publisher of the work. The first part of Ornithology was printed in 1808, and with this in his hand, he commenced his travels to obtain subscribers to his work, and further information for future numbers. He took his departure for the eastern states. He was received with kindness and attention by all the literary and scientifick, but the plan was a new one, and many questioned the success of the author, though all admired what he had done; so that in truth the subscription was much more limited than one would have thought, knowing the patronage extended to many works in that section of the country of far less merit than Wilson's. On returning from New England and New York to Philadelphia, he prepared for his western and southern tour. No man ever was more zealous in his calling than Wilson, but his remarks on the country as furnished by his letters, are devoid of all interest. His whole soul was absorbed in ornithological researches. He would not have stopped for a moment to have examined the bodies or minds of a new race of men that might lie in his way, if a new species of woodpecker had flown across his path. This is the true enthusiasm for one who intends to excel in his profession. It partakes of the features of love, in which all are forgotten for the possession of one. He seemed not to understand society or topography, and is the dullest traveller that ever started through this new world.

The first part excited no small degree of attention, and on the appearance of the second volume in 1810, it was noticed in terms of respect by the periodicals of the day. It was mentioned in the first volume

of "The American Medical and Philosophical Register," edited by Doctor David Hosack, and Doctor John W. Francis, a work of distinguished merit.

The ingenious writer informs us that he was "biassed, almost from his infancy, by a fondness for birds, and little less than an enthusiast in his researches after them." The volumes now before us convince us of the justness of this description; for no person but an ardent admirer and an accurate observer of this interesting department of nature, could have given such faithful accounts of the characters, habits, and manners, and at the same time such striking likenesses of the subjects on which he treats.

In the arrangement of birds into classes, orders, genera, species, and varieties, Mr. Wilson has followed the system of Dr. Latham, as published in his Index Ornithologicus and General Synopsis of Birds. Of all the writers on natural history, Buffon is the most popular and eloquent; the author has, with great propriety, imitated that celebrated writer's history of birds: but his imitations are the imitations of a man of an original mind, who thinks and acts independently.

This branch of the natural history of the United States has been but little cultivated in this country. Jefferson, Belknap, Bartram, Williams, and Barton, have, indeed, written on the subject, but they have not pretended to more than general outlines, and their works, imperfect and deficient as they are, greatly exceed in point of fidelity and correctness those of foreigners, who have undertaken to illustrate this subject. This desideratum we have every reason to believe will be amply supplied by Mr. Wilson.

The habits and manners of animals is the most interesting part of the study of natural history. In their approaches to reason and in their exhibitions of system, design, and order, we take peculiar delight. In this important respect we confidently pronounce the author to be the most able writer on ornithology that has ever appeared. An acute and discriminating notice of the haunts of birds, their modes of constructing their nests, manner of flight, seasons of migration, favourite food, period of incubation, conduct to each other and to their young, songs, &c. forms the most important and attractive part of the work. It is well known that the birds, particularly of the United States, have different names, not only in different states, but frequently in different parts of the same state, and that great confusion has consequently resulted in the study of ornithology. This difficulty is overcome, not only by the admirable draughts of Mr. Wilson, but by his furnishing us with the local and provincial as well as with the scientifick and popular appellations.

As a specimen of the style of the author, we present the following extract, taken from his admirable description of the mocking bird: (*Turdus Polyglottus.*)

"The plumage of the Mocking-Bird, though none of the homeliest, has nothing gaudy or brilliant in it; and, had he nothing else to recommend him, would scarcely entitle him to notice, but his figure is well-proportioned, and even handsome. The ease, elegance, and rapidity of his movements, the animation of his eye, and the intelligence he displays in listening and laying up lessons from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities we may add that of a voice full, strong, and musical, and capable of almost every modulation, from the clear mellow tones of the Wood Thrush, to the savage scream of the Bald Eagle. In measure and accents he faithfully follows his originals. In force and sweetness of expression, he greatly improves upon them. In his native groves, mounted on the top of a tall bush or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to *his* musick alone, to which that of all the others seems a mere accompaniment. Neither is his strain altogether imitative. His own native notes, which are easily distinguished by such as are well acquainted with those of our various song-birds, are bold and full,

and varied seemingly beyond all limits. They consist of short expressions of two, or at the most five or six syllables, generally interspersed with imitations, and all of them uttered with great emphasis and rapidity; and continued, with undiminished ardour, for half an hour, or an hour, at a time. His expanded wings and tail, glistening with white, and the buoyant gaiety of his action, arresting the eye, as his song most irresistibly does the ear. He sweeps round with enthusiastick ecstasy—he mounts and descends as his song swells or dies away: and as my friend Mr. Bartram has beautifully expressed it, 'He bounds aloft with the celerity of an arrow, as if to recover or recal his very soul, expired in the last elevated strain.'* While thus exerting himself, a by-stander destitute of sight, would suppose that the whole feathered tribes had assembled together, on a trial of skill, each trying to produce his utmost effect; so perfect are his imitations, he many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him; but whose notes he exactly imitates; even birds themselves are frequently imposed on by this admirable mimick and are decoyed by the fancied calls of their mates; or dive with precipitation into the depth of thickets, at the scream of what they suppose to be the Sparrow Hawk.

"The Mocking bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings and bristled feathers, clucking to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheel-barrow, follow with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the Canary, and the clear whistlings of the Virginia Nightingale, or Red-Bird, with such superiour execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat, by redoubling his exertions.

"This excessive fondness of variety, however, in the opinion of some, injures his song. His elevated imitations of the Brown Thrush are frequently interrupted by the crowing of cocks; and the warblings of the Blue-Bird, which he exquisitely manages, are mingled with the screaming of Swallows or the cackling of hens; amidst the simple melody of the Robin, we are suddenly surprised by the shrill reiterations of the Whipperwill; while the notes of the Killdeer, Blue Jay, Martin, Baltimore, and twenty others, succeed, with such imposing reality, that we look round for the originals, and discover, with astonishment, that the sole performer in this singular *concert* is the admirable bird now before us. During this exhibition of his powers, he spreads his wings, expands his tail, and throws himself around the cage in all the ecstasy of enthusiasm, seeming not only to sing, but to dance, keeping time to the measure of his own musick. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delightful solo; and serenades us the live-long night with a full display of his vocal powers, making the whole neighbourhood ring with his inimitable melody."

It would be doing injustice to the artisans engaged in this work, were we to pass over, without notice, the masterly manner in which the mechanical part of these volumes is executed. The text is presented in all the luxury of modern typography; the engravings are exquisitely fine, and coloured with the most scrupulous regard to the originals, and the whole offered at a moderate price; so much so, as certainly to exclude all thoughts of pecuniary remuneration on the part of the author.

We close with reluctance our remarks on this truly valuable and splendid publication; confidently believing "that the able and enlightened friends of that country, whose natural history he is thus endeavouring to illustrate, will not leave him

* Travels, page 32. Introd.

unsupported." In other respects he will reap a rich harvest of reward.

When the third and fourth parts of the Ornithology made their appearance in 1811, the same estimable periodical having reached the third volume, a still more courteous review of the genius and labours of Wilson was published.

Among the numerous attainments which adorn the human mind, the science of natural history has always held an elevated rank. The several departments of knowledge which it embraces, whether estimated according to their intrinsick importance, their influence in relation to the concerns and interests of common life, or the intellectual enjoyment they afford, have been cultivated, though with unequal success, in all ages, and among all nations. A list of the learned and ingenious who have directed their labours towards the elucidation of natural history, would not suffer by comparison with that which might be produced in any other branch of human inquiry. In that particular department which relates to the history of the animal kingdom, the list of great names is indeed splendid, both for numbers and importance. In such a list would appear the names of Aristotle, (himself a host,) Linnæus, Ray, Buffon, Pennant, Edwards, Latham, Bonnet, and Shaw. We make these observations not that we think they present any thing new to the reader, but because they speak a language which cannot be misunderstood in favour of a branch of science in general not duly appreciated. If the profound and comprehensive intellect of Aristotle thought itself worthily employed in composing the History of Animals, and the ardent and vigorous mind of Buffon was satisfied when he offered to the world his 'Histoire Naturelle,' the result of fifty years' devotedness to study, what are we to think of the opinions of those who represent researches of this kind as beneath the dignity of science, and fit only to amuse the idle and the vulgar?

With sentiments strongly in favour of inquiries into the several departments of nature, and persuaded that they give peculiar pleasure to those who are thus employed, and add to the amount of rational happiness among mankind, we take up the present volumes. The former parts of the Ornithology, have already engaged our attention; and every lover of natural history will rejoice to hear that those now before us are worthy of occupying the same rank as their predecessors. In manner and in matter we recognise every excellence that gave such a lively interest to those which passed under our first review.

Mr. Wilson was directed to the study of nature by the impulse of native genius; and to gratify his ardent desire for natural knowledge, has zealously devoted the chief part of his life of a most interesting department of animated nature. A residence of nearly twenty years in this country, has afforded him opportunities superiour to those ever enjoyed by any who have attempted the same subject. That he has availed himself of these, and to the fullest extent, is evinced in every page of these elegant volumes. If we advert to his descriptive talents as a writer, we find that he minutely and accurately records the haunts of the feathered tribe; their forms and colours, their food, the seasons of their migration, their manners, and every other distinguishing characteristick. That he is equally free from the technical terms of professed systematick writers, and those dry descriptions which have so much retarded the general diffusion of this science; and that while he evinces an ardent mind and brilliant imagination, he communicates all that he wishes to say in a style adapted to the comprehension of every capacity, and in a manner which cannot fail to allure the most inattentive reader. But in thus freely bestowing our decided approbation on the intellectual abilities of our author, as displayed in this masterly performance, let us not omit to notice that moral and religious character, which is every where so manifest in his writings. Accustomed to examine with the contemplative eye of the philosopher, the work of the great Creator, he sees wisdom, and order, and benevolence in every part; and whether he directs his attention to the meanest and most humble, or most magnificent and exalted of his creatures, seems to hold 'converse with

his providence.' In the exercise of his talents as a painter, he has left us nothing to wish. The drawings are mostly of the natural size, are copied and coloured from nature, and convey at the first glance, accurate and impressive ideas of the subjects they represent."

The following extract is taken from the account of the purple Grakle, the *gracula quiscala* of Linnæus, the crow black bird of Bartram.

"This noted depredator is well known to every careful farmer of the northern and middle states. About the 20th of March, the purple grakles visit Pennsylvania from the south, fly in loose flocks, frequent swamps and meadows, and follow in the furrows after the plough; their food at this season consisting of worms, grubs, and caterpillars, of which they destroy prodigious numbers, as if to recompense the husbandman beforehand, for the havock they intend to make among his crops of Indian corn. Towards evening they retire to the nearest cedars and pine trees to roost; making a continual chattering as they fly along. On the tallest of these trees they generally build their nests in company, about the beginning or middle of April; sometimes ten or fifteen nests being on the same tree. One of these nests, taken from a high pine tree, is now before me. It measures full five inches in diameter within, and four in depth; is composed outwardly of mud, and mixed with long stalks and roots of a knotty kind of grass, and lined with fine bent and horse hair.

"The eggs are five, of a bluish olive colour, marked with large spots and straggling streaks of black and dark brown, also with others of a fainter tinge. They rarely produce more than one brood in a season.

"The trees where these birds build, are often at no great distance from the farm house, and overlook the plantations. From thence they issue, in all directions, and with as much confidence, to make their daily depredations among the surrounding fields, as if the whole were intended for their use alone. Their chief attention, however, is directed to the Indian corn in all its progressive stages. As soon as the infant blade of this grain begins to make its appearance above ground, the grakles hail the welcome signal with screams of peculiar satisfaction, and without waiting for a formal invitation from the proprietor, descend on the fields and begin to pull up and regale themselves on the seed, scattering the green blades around. While thus eagerly employed, the vengeance of the gun sometimes overtakes them; but these disasters are soon forgotten, and those

'—— who live to get away,
Return to steal, another day.'

"About the beginning of August, when the young ears are in their milky state, they are attacked with redoubled eagerness by the grakles and red-wings, in formidable and combined bodies. They descend like a blackening, sweeping tempest on the corn, dig off the external covering of twelve or fifteen coats of leaves, as dexterously as if done by the hand of man, and having laid bare the ear, leave little behind to the farmer but the cobs, and shrivelled skins that contained their favourite fare. I have seen fields of corn of many acres, where more than one half was thus ruined. Indeed the farmers in the immediate vicinity of the rivers Delaware and Schuylkill, generally allow one fourth of this crop to the black-birds, among whom our grakle comes in for his full share. During these depredations, the gun is making great havock among their numbers, which has no other effect on the survivors, than to send them to another field, or to another part of the same field. This system of plunder and retaliation continues until November, when towards the middle of that month they begin to sheer off towards the south. The lower parts of Virginia, North and South Carolina, and Georgia, are the winter residences of these flocks. Here numerous bodies, collecting together from all quarters of the interiour and northern districts, and darkening the air with their numbers, sometimes form one congregated multitude of many hundred thousands. A few miles from the banks of the Roanoke, on the 20th of January, I met with one of those prodigious armies of grakles. They arose from the surrounding fields with a noise like thunder, and de-

scending on the length of road before me, covered it and the fences completely with black, and when they again rose, and after a few evolutions descended on the skirts of the high timbered woods, at the same time destitute of leaves, they produced a most singular and striking effect; the whole trees for a considerable extent, from the top to the lowest branches, seeming as if hung in mourning; their notes and screaming the mean while resembling the distant sound of a great cataract, but in more musical cadence, swelling and dying away on the ear according to the fluctuation of the breeze. In Kentucky, and all along the Mississippi, from its junction with the Ohio to the Balize, I found a number of these birds, so that the purple grakle may be considered as a very general inhabitant of the territory of the United States.

"Every industrious farmer complains of the mischief committed on his corn by the *crow blackbirds*, as they are usually called; though were the same means used as with pigeons, to take them in clap nets, multitudes of them might thus be destroyed, and the products of them in markets, in some measure, indemnify him for their depredations. But they are most numerous and most destructive at a time when the various harvests of the husbandman demand all his attention, and all his hands to cut, cure, and take in; and so they escape with a few sweeps made among them by some of the younger boys with a gun; and by the gunners from the neighbouring towns and villages; and return from their winter quarters, sometimes early in March, to renew the like scenes over again. As some consolation, however, to the industrious cultivator, I can assure him, that were I placed in his situation, I should hesitate whether to consider these birds most as friends or enemies, as they are particularly destructive to almost all the noxious worms, grubs, and caterpillars that infest his fields, which, were they allowed to multiply unmolested, would soon consume nine-tenths of all the productions of his labour, and desolate the country with the miseries of famine! Is not this another striking proof that the Deity has created nothing in vain; and that it is the duty of man, the lord of the creation, to avail himself of their usefulness, and guard against their bad effects as securely as possible, without indulging in the barbarous and even impious wish for their utter extermination!"

In the following notice of the ivory-billed woodpecker, the *picus principalis* of Linnæus, the reader has a very favourable specimen of Mr. Wilson's abilities as a writer. Like an able biographer, he seizes hold of some striking circumstance or action, and by relating it faithfully, gives a much better idea of his hero, than pages of abstract description.

"This majestick and formidable species, in strength and magnitude, stands at the head of the whole class of woodpeckers hitherto discovered. He may be called the king or chief of his tribe; and nature seems to have designed him a distinguished characteristick in the superb carmine crest and bill of polished ivory, with which she has ornamented him. His eye is brilliant and daring; and his whole frame so admirably adapted for his mode of life, and method of procuring subsistence, as to impress on the mind of the examiner the most reverential ideas of the Creator. His manners have also a dignity in them superiour to the common herd of woodpeckers. Trees, shrubbery, orchards, rails, fence posts, and old prostrate logs, are alike interesting to those, in their humble and indefatigable search for prey; but the royal hunter now before us, scorns the humility of such situations, and seeks the most towering trees of the forest; seeming particularly attached to those prodigious cypress swamps, whose crowded giant sons stretch their bare and blasted or moss-hung arms midway to the skies. In these almost inaccessible recesses, amid ruinous piles of impending timber, his trumpet-like note and loud strokes resound through the solitary savage wilds, of which he seems the sole lord and inhabitant. Wherever he frequents, he leaves numerous monuments of his industry behind him. We there see enormous pine trees with cart-loads of bark lying around their roots, and chips of the trunk itself in such quantities as to suggest the idea that half a dozen of axe-

men had been at work there for the whole morning. The body of the tree is also disfigured with such numerous and so large excavations, that one can hardly conceive it possible for the whole to be the work of a woodpecker. With such strength, and an apparatus so powerful, what havock might he not commit, if numerous, on the most useful of our forest trees; and yet with all these appearances, and much of vulgar prejudice against him, it may fairly be questioned whether he is at all injurious; or at least whether his exertions do not contribute most powerfully to the protection of our timber. Examine closely the tree where he has been at work, and you will perceive that it is neither from mouves of mischief nor amusement that he slices off the bark, or digs his way into the trunk. For the sound and healthy tree is not the least object of his attention. The diseased, infested with insects, and hastening to putrefaction, are his favourites; there the deadly, crawling enemy have formed a lodgement between the bark and tender wood, to drink up the very vital part of the tree. It is the ravages of these vermin which the intelligent proprietor of the forest deplores as the sole perpetrators of the destruction of his timber. Would it be believed that the larvæ of an insect or fly, no larger than a grain of rice, should silently and in one season, destroy some thousand acres of pine trees, many of them from two to three feet diameter, and a hundred and fifty feet high! Yet whoever passes along the high road from Georgetown to Charleston in South Carolina, about twenty miles from the former place, can have striking and melancholy proofs of this fact. In some places, the whole woods, as far as you can see around you, are dead, stripped of the bark, their wintry-looking arms and bare trunks bleaching in the sun, and tumbling in ruins before every blast, presenting a frightful picture of desolation. And yet ignorance and prejudice stubbornly persist in directing their indignation against the bird now before us, the constant and mortal enemy of these very vermin, as if the hand that probed the wound to extract its cause, should be equally detested with that which inflicted it; or if the thief-catcher should be confounded with the thief. Until some effectual preventive or more complete mode of destruction can be devised against these insects and their larvæ, I would humbly suggest the propriety of protecting and receiving with proper feelings of gratitude, the services of this and the whole tribe of woodpeckers, letting the odium of guilt fall to its proper owners.

"In looking over the accounts given of the ivory-billed woodpecker by the naturalists of Europe, I find it asserted that it inhabits from New Jersey to Mexico. I believe, however, that few of them are ever seen to the north of Virginia, and very few of them even in that state. The first place I observed this bird at, when on my way to the south, was about twelve miles north of Wilmington, in North Carolina. There I found the bird, from which the drawing of the figure in the plate was taken. This bird was only wounded slightly in the wing, and on being caught, uttered a loudly reiterated and most piteous note, exactly resembling the violent crying of a child, which terrified my horse so, as nearly to have cost me my life. It was distressing to hear it. I carried it with me in the chair under cover to Wilmington. In passing through the streets, its affecting cries surprised every one within hearing, particularly the females who hurried to the doors and windows with looks of alarm and anxiety. I drove on, and arriving at the piazza of the hotel where I intended to put up, the landlord came forward, and a number of other persons who happened to be there, all equally alarmed at what they heard; this was greatly increased by my asking whether he could furnish me with accommodations for myself and my baby. The man looked blank and foolish, while the others stared with still greater astonishment. After diverting myself for a minute or two at their expense, I drew my woodpecker from under the cover, and a general laugh took place. I took him up stairs and locked him up in my room, while I went to see my horse taken care of. In less than an hour I returned, and on opening the door he set up the same distressing shout, which now appeared to proceed from grief, that he had been discovered in his attempts

at escape. He had mounted along the side of the window nearly as high as the ceiling, a little below which, he had begun to break through. The bird was covered with large pieces of plaster; the lath was exposed at least fifteen inches square, and a hole, large enough to admit the first opening to the weather-boards; so that in less than another hour he would certainly have succeeded in making his way through. I now tied a string round his leg, and fastening it to the table, again left him. I wished to preserve his life, and had gone off in search of suitable food for him. As I renscended the stairs, I heard him again hard at work, and on entering, had the mortification to perceive, that he had almost entirely ruined the mahogany table to which he was fastened, and on which he had wreaked his whole vengeance. While engaged in taking the drawing, he cut me severely in several places, and on the whole, displayed such a noble and unconquerable spirit, that I was frequently tempted to restore him to his native wood. He lived with me nearly three days, but refused all sustenance, and I witnessed his death with regret." Vol. iv. p. 20—23.

"The food of this bird consists, I believe, entirely of insects and their larvæ. The pileated woodpecker is suspected of sometimes tasting the Indian corn; the ivory-billed never. His common note repeated every three or four seconds, very much resembles the tone of a trumpet, or the high note of a clarionet, and can plainly be distinguished at the distance of more than half a mile; seeming to be immediately at hand, though perhaps more than one hundred yards off. This it utters while mounting along the trunk or digging into it. At these times, it has a stately and novel appearance; and the note instantly attracts the notice of a stranger. Along the borders of the Savannah river, between Savannah and Augusta, I found them very frequently; but my horse no sooner heard their trumpet-like note, than remembering his former alarm, he became almost ungovernable." Vol. iv. p. 24—25.

The ensuing extract, copied from the preface to the fourth volume, beautifully portrays the author's mind, and is equally becoming the philosopher and the Christian.

"Is it possible for a rational and intelligent being, to contemplate these scenes without interest and without admiration? Innocence has charms that arrest almost every beholder, and can we survey the sportive and endearing manners of these with indifference? Men join with reverence in praises to the great Creator, and can they listen with contempt to the melodious strains, the hymns of praise which these joyful little creatures offer up every morning to the fountain of light and life? Who can contemplate, unmoved, the distress of a fond mother for her dying infant? And has that tender mother no claims on our sympathy, who, unprotected herself, prefers death rather than her young should suffer? Is tenderness of heart, fidelity, and parental affection only lovely when they exist among men? Oh no! it is impossible!—those virtues that are esteemed the highest ornaments of our nature seem to be emanations of the Divinity himself; and may be traced in many of the humble and least regarded of his creatures." p. 10.

But to conclude: the *Ornithology of the United States*, in which Mr. Wilson is engaged, exhibited in the manner of these volumes, is a magnificent undertaking, and calculated for the exercise of the greatest abilities. Fortunately for our country, it has fallen into the hands of one eminently qualified to execute it.

The work now began to attract the attention of the curious and scientifick wherever it was sent, and the Author acquired a permanent reputation as a scholar, as well as a naturalist. His parts were now read with a high relish, and beauties that had escaped the reader before, were more readily seen and admired. He was considered as the most impassioned naturalist that ever existed; but as giving every thing in truth and honesty;—but every man is liable to errour; even he who looks with the eye of sober reality is often gazing on optical illusion. Philosophical societies bestowed upon him their honours, and the naturalist began to be repaid for his labours. It was not permitted to Wilson to enjoy his honours for a length of years;

worn down with corporeal and mental labour, he was attacked with the dysentery, and in a few days sunk under it. He had described in his ornithology *two hundred and seventy-eight species of birds*—fifty-six of which had not been described before by any ornithologist. There were several drawings of the same bird living in different climes. What but the purest love of the science of ornithology, could have supported a man in his wanderings for thousands of miles, in every season of the year, in the mountains of New Hampshire and Vermont, through the swamps of Virginia and the Carolinas; over all the West and the South, half the time destitute of provisions, and often obliged to take lodgings where it pleased heaven to direct him? The writer of this had but one day's journey with the seeker of birds, and came unto his father's hospitable mansion with a load of birds; but not until near midnight, having lost their way in the woods, and he would not consent to suffer so much again by wet, cold, and fatigue, for all the wood-peckers that ever drummed on a tree, or all the owls that ever winked at a sun-beam. The day's success was so gratifying to Wilson that he could not sleep, and at early dawn he commenced his labours of preserving some of the choicest of the birds we had killed. Wilson, although he was so eager for his bird, was not a first-rate shot.

It is said that he contemplated a work upon the quadrupeds of this country, but this he did not live to finish, if he ever commenced the work. He died in the year 1813, at Philadelphia, and was buried in the cemetery of the Swedish Church. His friends placed over his grave a plain marble tomb, which bears the following inscription:

This monument
Covers the Remains of
ALEXANDER WILSON,
Autnor of the
AMERICAN ORNITHOLOGY.
He was born in Renfrewshire,
Scotland,
On the 6th July, 1766;
Emigrated to the United States
In the year 1794;
And died in Philadelphia
Of the Dysentery,
On the 23d August, 1813,
Aged 47.

NATHANIEL WOODHULL.—This distinguished martyr to the cause of American Liberty, was descended from an English family of great respectability, among some of the branches of which the ancient spelling of the name, *Wodhull*, is yet preserved. He was the eldest son of Nathaniel Woodhull of Suffolk county, Long Island. His great grandfather, Richard Woodhull, Esq. was one of those whom an abhorrence of civil and ecclesiastical tyranny drove in such numbers to our shores, and he settled at an early period of the history of the colony of New York, at Seatalcot, on Long Island. After the capture and organization of the province of New York, a grant was issued by Gov. Nicolls (in 1666) of the town of Brookhaven, to Richard Woodhull and others. He served in the magistracy and principal offices of the town, until his death, which occurred about thirty years afterwards.

The subject of the present memoir, was born on the 30th day of December, 1722, O. S. on an extensive farm at Mastic, on the south side of Long Island, now belonging to his daughter, Mrs. Elizabeth Smith, which became the property of his grandfather, Richard Woodhull, Jr. partly by purchase from the Indians, and grant from the Governour, and partly by transfer from the original settler. His early life was passed in assisting his father in cultivating the possessions, which he afterwards inherited. In 1761, he was married to Ruth Floyd, a sister of the Hon. William Floyd, one of the signers of the declaration of American Independence.

Being appointed a major in the Provincial forces of New York, Mr. Woodhull, in 1758, served in that capacity, in the army under General Abercrombie, intended for the reduction of Ticonderoga and Crown Point. He was engaged in the daring, or rather the rash assault, ordered by the English General before the arrival of his artillery, upon the former place, which, strongly fortified, was defended by a garrison of more than five thousand men, and protected, on its only assailable side by fallen trees, with their branches projecting outward, so cut as to answer the purpose of chevaux-de-

frise. After an exposure of four hours to the covered fire of the French, during which time every effort of heroick perseverance proved ineffectual in making an impression on the enemy's works; the assailing force was obliged to retire to the southern side of Lake George, with a loss of about 2000 men killed or dangerously wounded.

Desirous of wiping off the stain of this repulse, Gen. Abercrombie detached a portion of his army on an expedition against Cadaraqui, or Fort Frontenac, (now Kingston,) an important fortress at the communication of Lake Ontario with the River St. Lawrence. Lieut. Col. Bradstreet, with whom the design originated, commanded this enterprise, having a train of 8 cannon and 3 mortars, and a body of 3000 men, of whom, about 150 only were regulars. The rest of the detachment was composed of provincials, from Massachusetts, Rhode Island, New Jersey, and New York. Those of the latter province amounted to somewhat more than 1100 men, of whom, one battalion, of 440 men, was placed under the command of Lieut. Col. Charles Clinton, (the grandfather of the late De Witt Clinton,) and the second battalion, of 670 men, was confided to Lieut. Col. Corsa, and Major Woodhull. On the 27th of August, 1758, a combined operation against the fort was made by land and water; the conduct of the forces in the boats being committed to Lieut. Col. Corsa and Major Woodhull, with orders to receive the fire of the fort without returning it, until their troops had landed and formed. The resolution with which the operations were conducted, dispirited the enemy, whose forces were insufficient to the defence of their works, and after a feeble resistance, the garrison struck their colours, and capitulated. Immense stores of provisions and merchandise, intended for the supply of the French forces in America, sixty pieces of cannon, sixteen mortars, and nine armed vessels, some of them carrying eighteen guns, were the fruits of this surrender.

Whether Mr. Woodhull was employed in the campaign of the following year is not ascertained, most of his papers having been accidentally destroyed by fire, a few years after his death. It is believed, however, that he marched either with the force which Gen. Prideaux conducted, in 1759, against Niagara, or with that led by Gen. Amherst against Ticonderoga and Crown Point, both of which enterprises had a successful issue. In 1760, he served as Colonel of the third Regiment of New York Provincials, in the army under Gen. Amherst, which marched against Montreal, and effected the final reduction of Canada. Upon the capitulation of the Marquis of Vaudreuil, Colonel Woodhull with his troops, returned to New York, and he retired to private life.

The removal of the neighbourhood of French power, so dangerous to the Colonists, and the consciousness of the latter that they had efficiently contributed to its achievement, were calculated to produce among them a more free inquiry into the relative rights of the provinces and the mother country, and of their own ability successfully to assert their privileges. The spirit to which this inquiry gave rise, was stimulated by the pretensions set up at home, which, first assuming that America was to be taxed by the British Parliament, for the expenses of whatever attacks the wars of interest, or ambition, in which the parent state engaged, should draw upon the Colonists, grew into the assertion of a right, to tax them in all cases whatsoever. Acts of parliament rashly passed and sometimes timidly repealed, only served to spread the existing discontent, and to hasten the impending crisis. Partaking of the general feeling, the Assembly of New York, at the close of December, 1768, unanimously resolved, that no tax could, or ought to be imposed, or levied, on the persons or estates of his Majesty's subjects within that Colony, but of their own free gift, by their representatives convened in General Assembly. The consequence was a dissolution of the body on the 2d of January, 1769, by the Royal Governour, Sir Henry Moore.

The proceedings of the Assembly were highly approved by the people of Suffolk, among whom the primitive manners and republican feelings of their puritan ancestors, were in a remarkable degree preserved.

At the election in the Spring of 1769, they returned to that body, William Nicoll Esq. who had been one of its former members, and Col. Nathaniel Woodhull. In the instructions drawn for their representatives, the County emphatically expressed their reliance on the exertions of their newly selected members, "to preserve their freedom, and the command over their own purses." The injunction was faithfully observed by Mr. Woodhull, who, during the six years that followed of the continuance of the royal government, was constant in his devotion to the rights of his countrymen, and his opposition to the party of the Court.

In the Convention which met in the city of New York, April 10th, 1775, to choose delegates to the Continental Congress, Mr. Woodhull appeared as a delegate from the county of Suffolk. Pursuant to a recommendation from the New York local Committee, a Provincial Congress was soon afterwards deputed by the several counties of the Colony, which met in that city, May 22d, 1775. This body practically asserted its right to entire sovereignty, superseding, in effect, from the time of its organization, and ultimately dissolving and expelling the royal authority. Colonel Woodhull was placed at the head of the delegation from Suffolk county. On the 22d of August, 1775, the Provincial Congress re-organized the militia of the Colony into brigades, directing, "that a Brigadier General, with a Major of brigade, be commissioned to the command of each brigade." The militia of Suffolk and Queens constituted one brigade, of which Mr. Woodhull was subsequently appointed to be the General, and Jonathan Lawrence, Esq., (a member of the Provincial Congress, from Queens county,) to be Major of brigade.

On the 28th of August, 1775, Gen. Woodhull was elected President of the Provincial Congress, and held the same office in the body that succeeded it, in 1776. Doubting its powers to conform to the recommendation of the Continental Congress, by erecting a new form of government, to the exclusion of all foreign control, the Provincial Congress, on the 31st of May, 1776, recommended to the electors of the several counties, to vest the necessary powers, either in their present delegates, or in others to be chosen in their stead. The British army having, on the 30th of June, appeared off the harbour of New York, the Provincial Congress, on its adjournment that day, directed that the Congress, in which these new powers were vested, and which was to assemble on the 8th of July, should meet at White Plains. They did not, in fact, assem le until the 9th day of July, 1776, when General Woodhull was chosen President.

The declaration of independence, passed on the 4th inst. had not received the unanimous approbation of the colonies in continental Congress, the delegates from the colony of New York, having declined to vote, because although they were personally for the measure, and believed their constituents to be so, they were fettered by instructions drawn nearly a twelve month before, when the hope of reconciliation was yet cherished. Immediately on their meeting, the new provincial Congress unanimously adopted the declaration, (Gen. Woodhull presiding,) on the part of the people of New York: thus filling the void occasioned by the want of the necessary powers in their delegates at Philadelphia. On the next day they assumed the title of "*the convention of the representatives of the State of New York*," and subsequently formed the first constitution of the state.

The invading army under Lord Howe, had landed on Staten Island, and by the command which their naval force secured over the neighbouring waters, they were enabled to threaten an attack from this point, either on Long Island or the Island of New York. Gen. Washington was therefore obliged to divide the force collected to oppose them, a portion of which entrenched themselves at Brooklyn, while the residue were stationed at different parts of York Island. The New York convention had, on the 20th July, ordered one fourth of the militia of Queens and Suffolk to be drafted and the two regiments thus obtained had marched under the command of Col. Josiah Smith of Suffolk, and Col. Jeromus Remsen of Queen's

within the lines at Brooklyn, then commanded by Gen. Sullivan. On the 10th August, Gen. Woodhull's concerns requiring his return home, he obtained leave of temporary absence from the convention, whose sittings had been transferred to Harlaem, and proceeded to his residence at Mastic, about 75 miles from New York. On the 22d of August the uncertainty that had prevailed as to the first point of attack on the part of the invaders, was dispelled by the landing of a portion of their forces near New Utrecht. Aware of the increasing want of provisions among the enemy, and that, the American army being now confined to their lines, the whole stock and produce of Long Island would be in the power of the hostile troops, unless means were taken to prevent it, the convention of New York adopted a policy since successfully pursued on a larger scale by the Russians. This was to deprive the invading force of supplies, and thus compel their abandonment of the Island, by removing the stock and other provisions in the adjacent country, or if that could not be effected, *by destroying them*. Resolutions were accordingly passed on the 24th August, 1776, ordering Gen. Woodhull, or in his absence, Col. Potter, (who had served as a captain of the New York Provincials in the campaigns against the French in 1758 and 1759,) to march without delay one half of the western regiment of militia of Suffolk county, with five days' provisions, into the western parts of Queens county; and that the officers of the militia of Queens should immediately order out the whole militia of that county to effect the desired objects. An express being sent with these directions to brigade Major Lawrence, Col. Potter and Gen. Woodhull, the latter reached Jamaica on the next day, (Sunday,) apprised the convention of his arrival there, and awaited the approach of the forces intended for his command.

The convention were fully aware that the militia to be collected on this emergency, would be wholly insufficient to effect the above object, and more particularly to enable the general to station a force, agreeably to their wishes, on the high grounds in the western part of Queens county, to repel the ravaging parties of the enemy.

In the preceding year it had been necessary to despatch from the main some of the troops under the command of Gen. Wooster, to Suffolk county, in order to prevent depredations along its exposed coast; and its armed inhabitants were not now more than competent to the same purpose. In Queens county a majority of the inhabitants were disaffected to the patriotick cause. They had, in the previous month of December, obtained arms from the Asia man of war, and had prevented, by superiour numbers at the polls, an election, then attempted, of delegates to the provincial Congress; insomuch that a military intervention, under the direction of the continental Congress, had been necessary, to deprive the Tories of offensive weapons, and to secure to the Whigs the freedom of election. A large number of the whigs of that county were already imbodied in the regiment of Col. Remsen, and many of those at home were overawed by the neighbourhood of the British force, or were employed in preparations for the flight of their families, if fortune should be favourable to the British arms.

The convention accordingly deputed a committee to Gen. Washington advising him of their objects: of their apprehension of the insufficiency of the force they had ordered to join Gen. Woodhull, and of their conviction that it would be most conducive to the publick welfare that the regiments of Col's. Smith and Remsen, should be added. The committee reported, on the 26th, that at the conference with Gen. Washington, he seemed well pleased, but said he was afraid it was too late. He however expressed his willingness to afford every assistance to the convention consistent with the publick good, and stated that he would immediately give orders that Smith's and Remsen's regiments should march into Queens county to join Gen. Woodhull. Notice of this result was forwarded to the latter, as well as of the expectation of the convention that by the time he received their letter, he would have been joined by the promised reinforcement.

On the same day the whole militia

force that had been collected, was assembled at Jamaica, and was found to consist only of about one hundred men, led by Col. Potter from Suffolk county, about forty militia from Queens, and fifty horsemen belonging to the troop of Kings and Queens counties. With this handful of men, Gen. Woodhull advanced to the westward of Queens county agreeably to his orders. Owing probably to the receipt of information that increased numbers of the British had disembarked on the preceding day at New Utrecht, the commanding officer at Brooklyn did not detach the two Long Island regiments to join Gen. Woodhull, and by some fatality, the omission was neither communicated to the convention nor explained to the expecting general. Disappointed in not meeting the additional troops, without whom he could not post any force on the heights, to repel depredations of the enemy, he nevertheless commenced with vigour the execution of the rest of his orders, placed guards and sentries to prevent communication between the Tories and the enemy, and scouring during this, and the succeeding day, the country southward of the hills in Kings and a considerable part of the towns of Newtown and Jamaica, he sent off an immense quantity of stock, collected there towards the Great Plains, and ordered off a further quantity from near Hempstead. In the mean time his numbers had dwindled by the anxiety of the militia to reach their homes and protect or remove their families, to less than one hundred men, who, as well as their horses, were worn down with the fatigue of the duty they had performed. What they had effected demonstrated that with the force the convention had expected to place under his command, the object to which they attached so much importance, could have been readily accomplished. The subsequent disasters to the American arms would, however, have rendered its accomplishment useless.

Early on the 27th of August, a pass through the hills in Kings county, which had been left unguarded by the American troops, was taken possession of by the enemy. The American outposts were surprised, and the American army driven, after a sanguinary engagement, within their entrenchments at Brooklyn. Numbers of the British troops during the same day posted themselves on the hills between Newtown and Jamaica, and parties of the enemy's horse made incursions into the country within a short distance of the general's force. In this state of things he retired to Jamaica, sending at different times, two messages to the convention, apprising them of his situation, of the absolute necessity of reinforcements, and of his conviction that the two Long Island regiments could not join him, in consequence of the interruption of the communications. Unfortunately the convention did not sit on that day, and the general receiving no answer, despatched his brigade major, who was also a member of that body, to repeat his representations, and obtain their orders. The convention at their meeting on the 28th, still adhered to their favourite project, believing that by crossing the East River to York Island, and making a detour to Flushing, the two regiments might still reach Jamaica. They accordingly sent Major Lawrence to General Washington, with a letter expressing that opinion, and referring him to the brigade major for explanations as to the means. At the same time they directed the necessary preparations for the transportation and landing of the troops, and receiving soon after a reiteration of the call for an immediate reinforcement, they deputed two of their body, (John Sloss Hobart, and James Townsend, Esqrs.) to repair to Gen. Woodhull with instructions and advice. Owing probably to the intermediate roads being in possession of the enemy, these gentlemen it is believed never reached him. Whether the express despatched by Major Lawrence as soon as he was ordered on the mission to Gen. Washington, was more successful, is not known.

On the same morning the convention forwarded a circular to the committees of the different towns of Connecticut, lying on the Sound, requesting their co-operation in removing the stock from Long Island to that state, and an application to the Governour of Connecticut for such force as could be speedily ob-

tained. An application to him had been intermediately made by Gen. Washington, to throw over a body of one thousand men upon the Island.

In the afternoon, Major Lawrence returned from the American camp, bringing a letter from the commander-in-chief, declining the request of the convention for the desired reinforcements, because in the opinion of himself and his general officers, the men they had were not more than competent to the defence of their lines. The retreat across the river which was effected on that night, might have been suspected and thwarted, if the passage of the two regiments had been attempted in open day. This no doubt formed an additional reason for non-compliance.

In the mean time, Gen. Woodhull, whose notions of military obedience had been formed in the strictest school, was awaiting the expected orders, and reinforcements. His small body of troops had been directed to proceed eastward in the performance of their duties, he remaining with a few personal attendants at a house on the road side, about two miles from Jamaica, to receive some definitive reply to his messages. Here he was overtaken by a large detachment of the enemy, accompanied by some of the most active of the Tories. After an ineffectual attempt at concealment, he surrendered himself a prisoner of war, giving up his sword, as is customary. Elated by the capture of a rebel general, and the president of the rebel convention, they coarsely and insultingly required him to cry "God save the King!" His refusal to obey the degrading command, was rewarded by a repetition of the insult, and an accompanying cut of a sabre. At each succeeding denial, a blow of the cutlass, or a thrust of the bayonet was aimed at the defenceless victim. No compunction of manly feeling, nor sensibility to shame, arose among his captors to arrest this savage butchery, until his head and body were covered with wounds, when the interference of one of the officers averted the instant fate that had seemed to await him, and reserved him for new indignities and a lingering death.

He was hurried from the scene of this dastardly attack to Jamaica, on foot, and there confined in the stone church, formerly standing in the middle of the road, exposed, in his blood-stained garments, to the gaze of all whom curiosity or malignant feeling, or concealed sympathy attracted thither. On the following morning he was carried to Gravesend, where, with the late Colonel Robert Troup and other prisoners, he was thrown on board a filthy prison ship, that had been employed to transport cattle for the use of the British army. From this situation he was subsequently released, and provided with accommodations on shore.

The wounds of the general had assumed a promising state, and hopes were entertained of his recovery, when a mortification of the arm ensued, rendering amputation necessary. Believing that this operation would be unavailing, he nevertheless submitted to it, asking leave, at the same time, for his wife to visit him. She arrived soon enough to attend him in his dying moments, and was permitted to remove his dead body, which was opened and prepared for the purpose by the British surgeons. Poignant as her feelings must have been, while accompanying the mangled corpse of her husband in its slow progress over a distance of 70 miles, she had yet the melancholy satisfaction of reflecting that it was out of the hands of the enemy, and of depositing it on his late possessions, among the remains of his ancestors. A plain marble stone marks the spot, with the following inscription:—

In Memory
of
Gen. Nathaniel Woodhull,
Who, wounded and a prisoner,
Died on the 20th day of September,
1776,
In the 54th year of his age,
Lamented by all who knew how
to value
His many private Virtues,
And that pure zeal
For the Rights of his Country,
To which he perished
A Victim.

Hoping to negotiate an exchange of General Woodhull, the Convention had despatched John Sloss Ho-

hart, Esq., to the camp at Kingsbridge, the more readily to effect that object. He had made some progress in his mission when he heard of the decease of his colleague, from an inhabitant of Islip, before whose door the sad procession passed.

The massacre of this gallant officer, and eminent citizen, aroused in every patriotick breast the feelings due to the atrocity of the act, and to the qualities and station of its subject. Nor can its circumstances ever be recollected without sympathy and admiration for the lofty spirit whom no extremity of suffering could bend to dishonour; nor without disdain and abhorrence of a coward brutality that vainly seeks for extenuation in the bitter animosities of the times.

General Woodhull had by his marriage with Miss Floyd, a son, Nathaniel, and a daughter, Elizabeth, the former of whom died in his infancy. The latter, who still survives, was married first to Henry Nicoll, a member of the bar, and after his death to the late John Smith, one of the Senators in the Congress of the United States from the State of New York.

JOHN WHEELOCK, the second President of Dartmouth College, was born at Lebanon, in the state of Connecticut, in 1754, and was one of the first class who graduated at that College, in 1771. He was the son of Eleazer Wheelock, the founder of that institution. For several years after leaving college, he was diligent in the pursuit of general literature, and from his reputation as a man of high attainments, was elected a member of the Convention of New Hampshire in 1775. After the commencement of the revolution, he took with his father a decided part in the excitement of the times, and sought to perform a share amongst the patriots engaged in the affairs of his country. In 1777 he was appointed a Lieutenant Colonel in the Continental army, having held an office in the militia previously. On joining the northern army he was taken into the military family of General Gates, and served with him until Burgoyne was captured. In 1779 he succeeded his father as President of Dartmouth College. In 1782 he went to England to increase the funds of the college, and was absent two years. He had collected a fine philosophical apparatus, but it was lost on his return; the vessel being wrecked on Cape Cod; the passengers and crew escaping only with their lives. The passengers on the voyage considered President Wheelock only as a silent, reserved bookman; but when the vessel was wrecked, he behaved with such prudence, bravery, and gallantry, (for there were ladies on board,) that all were struck with admiration at his conduct. With the most disinterested fearlessness, he saw all safe on shore, before he began to think of himself. There was a blustering atheist among the passengers, who aforetime had laughed at Providence and defied danger, who, in this crisis, shrunk into a baby paroxysm of fear, and sneaked into safety, regardless of all around him. President Wheelock entered anew into his duties, and instruction, and direction of his college, and had the felicity of seeing it prosper under his care. His industry was a standard example to the pupils of the college. For more than thirty years he was a most indefatigable student, the morning sun shone upon his labours, and he trimmed his lamp long after midnight. In his diet he was as abstemious as any sage of primitive times, and he had stored in his memory a world of facts. He filled the office of professor of civil and ecclesiastical history, and he poured out his treasures of knowledge as a waste of waters. He was indulgent almost to a fault, to those who strove for mastery. If he was ever severe, it was to idleness and to the promoters of it. It was difficult to make him believe that a boy could be very mischievous, who was ready in his lessons, and regularly found in the recitation room. The latter part of his life was imbittered by feuds among the trustees of the college, which ended in the dissolution of his connexion with the institution, He was restored by an act of the legislature of New Hampshire; this act was disputed as unconstitutional, but President Wheelock died before the question was decided to be so, by the Supreme Court of the United States. Doctor Wheelock

was a man of genius and of letters. He was friendly to all under his care, who behaved well; and many remember him with the warmest affection. If he had failings "the love he bore to learners was in fault."

ELI WHITNEY. The United States has been prolifick in men of invention. In the growing state of the country every one followed his own inclination, and there was nothing of that narrowness of thought which is found in those nations where the occupations of the father descend to the children for many generations. Necessity is truly the mother of invention, but utility has much to do in keeping it alive. These great American inventors and mechanical geniuses, from Sir William Phipps to Jacob Perkins, would fill volumes, but our limits will only permit us to mention a few. Amongst them Eli Whitney, the inventor of the cotton gin, deserves well of his country. He was born in Westborough, in the county of Worcester, and commonwealth of Massachusetts, on the fifth of December, in the year seventeen hundred and sixty-five. His father was a respectable yeoman, and gave his children a good common school education. Eli discovered much sagacity at an early age, and particularly in mechanicks. His father had a workshop—a common thing for every farmer—and here his boys were permitted to handle tools as soon as they could handle a knife and fork. Among the first of Whitney's inventions was a machine to make nails; and this was a profitable business during the revolutionary war, as the article was scarce in the market. At the age of nineteen he conceived the idea of getting a classical education, and he worried along, with numerous difficulties, in preparing to enter college, which was not done until he had reached the age of twenty-three. A man with ever so strong a mind cannot prepare for college as readily as a bright boy. Other things, besides his Latin and Greek, will press upon him; and, while he should be running a verb through the modes and tenses, his mind is wandering upon his future destinies in life. In college, Whitney was distinguished in the higher branches of mathematicks and metaphysicks. In the midst of his studies he now and then discovered his great abilities as a practical mechanick. In 1792 he went to Georgia, to pass a year or two as a private tutor. He had become acquainted with Mrs. Greene, the widow of Major-General N. Greene, and her kindness was of importance to him in getting acquainted with the principal planters in the country around him. From them he learned the difficulties the cotton growers laboured under in separating the seed of the cotton-plant from the staple. He was prompted to set about inventing a machine that would answer the purpose. This was soon done, and the machine put into operation; but, so anxious were the planters to have the benefit of his labours, that they took the machine from him by force. Those who were employed to make machines like it claimed to be inventors, and Mr. Whitney was involved in lawsuits without number to get his right. No one can tell how vexatious such suits are but those who have had the trial, by way of plaintiff or counsel; and after he has had such experience, his confidence in human testimony and human judgement will be most miserably shaken. No sooner had Whitney broke one antagonist on the wheel than another started up, and hydra-like, held him another fight. Sometimes a southern legislature, influenced by the best spirit, would make him a generous grant for his machine, and then the demagogues would prevent or repeal the law. The most enlightened portions of the community were with him, but they are not always the ruling majority. The narrative of his exertions to get his rights is painful to read; it may be truly called the trials of genius. The opinion of Judge Johnson, of the supreme court of the United States, is worthy of perpetual preservation, for its good sense and manly independence. He acknowledged that Whitney had given every acre of cotton tillage a double value. Although cheered by the wise and assisted by the liberal, Whitney spent the flower of his existence in lawsuits and troubles, and gained nothing to remunerate himself or friends. After his fatigue and

disappointment at the south he returned to the east, and commenced making fire-arms. He had a contract with the United States' government to furnish them with several thousand stand of arms. There were many difficulties in this engagement, from the low state of the arts in our country; but this contract was renewed, and finally became profitable. Mr. Whitney died on the ninth of January, 1825, in the sixtieth year of his age, deeply lamented by all who knew him. He was a man of genius, without any of those eccentricities which so often leave dark stains on the page of human life amongst those exalted by superiour talents. He was open, direct, fair, and gentlemanly in all he did. His feelings were acute, but he had the entire control of them, and his perseverance was astonishing. In his most disastrous defeats he had a self-possession and a calmness that excited the admiration of his enemies. They never knew when the fight was over, for he arose from disaster like one of immortal vigour, and repeated his blows with success. He lived honoured and respected for his virtues, as well as for his talents. He was well acquainted with most of the gifted minds in the country. Jefferson considered him as a philosopher of extraordinary powers of investigation and invention; and Fulton hailed him as a kindred mind, engaged in the great cause with himself, that of doing good to mankind. Such men are not duly appreciated while living. There is a lying spirit of envy abroad, that follows them every where, and which seizes every weakness, or every slight failure in bold attempts, and makes the most of them to injure them, and to bring the mighty in intellect to a common level. Franklin was denounced as impious for bringing lightning from the clouds; Edgeworth was thought a lunatick for his observations on rail-roads; Beddors, for his pneumaticks, was exhibited in print-shops, with a fool's cap on; and the wise people of New York looked upon Robert Fulton, while maturing his plans to start a steam-boat on the North river, as one only preparing himself to become an inmate of a mad-house. Posterity will do justice to such men, and the gratitude their own generation owed them will be paid in future times. The writer of this faint sketch knew Mr. Whitney, and can speak without hesitation of the cast and powers of his mind, yet he is indebted for the facts glanced at to Professor Olmstead's memoir of Whitney, in Silliman's Journal of Science—"an excellent thing in a good place."

HON. JAMES WINTHROP, L.L.D., A.A.S., and H.S. JAMES WINTHROP, descended through a long line of highly respectable ancestors, was of the fifth generation from that worthy and justly celebrated character JOHN WINTHROP, Esq., the first Governour of Massachusetts. His father was that eminent mathematician and astronomer, and greatly distinguished statesman and patriot JOHN WINTHROP, L.L.D, F.R.S., *Hollis Professor of Mathematicks and Natural Philosophy in Harvard College.* JAMES was born at Cambridge on the 8th of April, 1752.

Endowed by nature with strong intellectual powers and capacities, and enjoying peculiar advantages for their development and culture, he made such proficiency in learning that at the early age of thirteen he became a member of college. This was considered a rare instance of youthful attainment; as the qualifications requisite for matriculation in that institution were so great, that few under the age of fifteen or sixteen possessed them, and many were still older before they were acquired. His assiduous application to study, and his correct deportment, evinced his zeal to make the best improvement and secure an honourable distinction.

On completing his collegiate education, he did not give his attention to any particular course of reading with a view to a profession, but was very studious, having reference, probably, to some professorship in the University.

In 1771 he was appointed librarian; and in that office continued about twenty years.

At the time of our political controversy with Great Britain, he was in all the vigour and ardour of youth, and discovered an interest and decision in the cause which justly entitle him to the high honour of a firm and

zealous patriot. In this, as well as in his literary tastes and pursuits, he followed the steps of his respected and venerable father.

In 1775 he was appointed Postmaster at Cambridge, which was considered an office of special responsibleness, as the American army was stationed in that town.

His ardent and patriotick feelings induced him, on the morning of the memorable 17th of June, to join the detachment which had taken possession of Breed's Hill, in Charlestown, during the preceding night. He armed himself, and, with Major Swan, proceeded thither. A part of the distance they were accompanied by the brave and patriotick Warren, who fell in the battle that followed. Mr. Winthrop was at the redoubt, and at the temporary breastwork thrown up on the eastern side of the hill; and was among the last that left Charlestown when the American troops were obliged to retreat. In descending the eminence towards the Neck, he was struck by a musket ball. Though, fortunately, the wound was not mortal, the shock was so powerful as to throw him prostrate on the ground. The enemy did not pursue our troops, and he escaped and returned to Cambridge.

Soon after this time Professor Winthrop was made Judge of the Probate of Wills, for the county of Middlesex, and his son was appointed Register; and this office he retained till the year 1817, when he resigned, having discharged his various and laborious duties with ability and fidelity for upwards of forty years.

In 1778, on the death of his father, he was requested by the Corporation of the College to deliver a series of lectures on experimental philosophy, as an associate with Caleb Gannet, Esq.; and had the support of many learned men and friends of the College, for the professorship, but did not obtain the election.

When the unhappy insurrection took place in the interior of the State, in the year 1786, he attended General Lincoln as a volunteer, and was among the most active in suppressing the riotous assemblies of the people, and in discountenancing the prevailing prejudices and dissatisfaction.

For seven years he sustained the office of a Judge, in the Court of Pleas for the county of Middlesex.

He was among the founders of the *American Academy of Arts and Sciences*, with whom his name is inserted in the Act of Incorporation, granted by the legislature in 1780, and to its publications he contributed some valuable memoirs. He was also, an early member of *the Massachusetts Historical Society*, and *of the American Antiquarian Society*.

For the last thirty years of his life, Judge Winthrop was engaged, during those hours which he could redeem from publick duties, in theological, mathematical, and philosophical studies. With Christian theology he was particularly conversant. He was a firm believer in the divine origin of the Gospel, and made a publick profession of it. Being a member of the Church at Cambridge, he was from time to time appointed to attend the pastor as a delegate to councils, where his profound knowledge of ecclesiastical institutes, and of civil law, his sound judgement, and his zeal for the peace and liberties of the Churches, rendered his opinions and advice highly important. The Jewish antiquities and ancient chronology were very familiar to him. To a periodical publication, entitled "the Literary Miscellany," he contributed a series of *Dissertations on Primitive History and the Geography of the Old World*, and left in manuscript additional materials prepared for insertion, had that work been continued; and it is believed that their publication would do honour to his memory. He devoted considerable time to the elucidation of the Prophecies, and in 1794 published a small volume bearing the title, *An attempt to translate part of the Apocalypse of St. John into familiar language, by divesting it of the metaphors in which it is involved.* Of this work a second edition was printed in 1809; with additional illustrations and remarks.

He was a man of varied and extensive literature. He was profound as a mathematician, and intimately acquainted with the deepest researches and discoveries in natural philosophy and astronomy. He excelled in philology, read all the learned modern languages, as French

Spanish, Italian and German, was a fine Greek and Latin scholar, and few persons understood the Hebrew so well as he did. He had made great progress in deciphering the Egyptian hieroglyphicks, and had written largely upon the ancient zodiacks, in order to illustrate that which was discovered in the ruins of a temple at Thebes. In the latter part of his life he acquired a considerable acquaintance with the Chinese, having been assisted by the explanations of a learned native who resided for some time at Cambridge, and had compiled a very extensive vocabulary of that obscure language.

In his intercourse with others he was strictly just, and was ever ready by his bounty to assist the meritorious poor. He also possessed much of a publick spirit. West Boston Bridge and the Middlesex Canal were forwarded by his active and early influence; and to the College at Meadville, in Pennsylvania, he bequeathed his large and exceedingly valuable library, with the reservation of a small selection of books which he left as a legacy to two of his very intimate friends.

His social disposition was affectionate, and he was a pleasant and instructive companion. His conversation was mostly on useful and literary topicks; but there was at some times a playfulness of fancy, and an eccentricity of manners, and at others a positiveness which lessened in the view of strangers that estimation to which his profound learning, his genuine benignity, and his moral worth entitled him. By those who best knew him he was much beloved and honoured.

He deceased, at Cambridge, on the 26th of September, 1821, in the 69th year of his age.

SAMUEL WELCH was born at Kingston, N. H. Sept. 1, 1710, O. S. His grandfather, Philip Welch, was a native of England, and one of the first settlers at Ipswich, Mass. His father, Samuel Welch, settled early at Kingston, and lived to between 80 and 90 years of age. His mother lived nearly a century; a sister till about 100, and a brother till more than 90 years of age. Mr. Welch spent the eary part of his life on the paternal farm; afterwards removed to Pembroke, purchased a small tract of land and settled upon it. About fifty years since, he removed to Bow, where he steadily cultivated his little farm, till the winter of age was gathering around him, and the infirmities of a second childhood warned him of his approaching dissolution. It was not, however till a hundred summers had passed that he was compelled to abstain from labour. Mr. Welch had through life been a man of industry, and a lover of retirement. The dangers of Indian warfare had never disturbed him, though the savages for many years lurked in the vicinity. No accident or evil appears to have befallen him; his long life has been an even tenor of quiet industry and comfort, unmarked by those vicissitudes which distinguish the history of many of our aged people. The grand secret of his extraordinary health seems to have been his uniform temperance, which, with a single exception, secured to him through life a sound constitution, and an entire exemption from disease.

Till within a very short time his mental powers were little impaired, and he could converse with freedom and propriety. With the years long passed he was most familiar, and would relate, with ease, circumstances that occurred half a century ago; while with recent events and the present race of men, he was little acquainted. For the last few years he has had many visiters—the young and thoughtless, to behold the patriarch of a century and an eighth—the old to commune with a man, to whom they too appeared as youths.

His appearance was truly venerable. Time had made deep inroads upon his frame; his locks had been touched by the silvery wand: his eye, originally dark and brilliant gave evidence of decaying lustre; while his countenance, wrinkled with years, and his frame, tottering and feeble, could not but deeply impress the beholder. He spoke of life as one weary of its burdens, and wishing "to be away." His death has corresponded with his life—it was calm and tranquil. And we trust he has gone to taste the rewards of a life spent in quiet virtue and unambitious goodness.

Mr. Welch was the oldest native

citizen in New Hampshire. Three, however, have died here at a greater age, viz. Mr. Lovewell, of Dunstable, (father to Col. Zaccheus Lovewell, mentioned in Belknap's N. H. vol. ii. p. 233,) aged 120; William Perkins, of New Market, who died in 1732, aged 116; and Robert Macklin, of Wakefield, who died in 1789, aged 115. It may be mentioned, in favour of the general salubrity of our climate, that, within a century, about 100 persons have lived in New Hampshire to the age of a century and upwards. We doubt whether any other state in the Union can present so many instances of longevity.—*New Hampshire Patriot.*

In the summer of 1822, the editor of this work in company of the late much lamented Dr. Samuel R. Trevett paid the venerable Samuel Welch a visit, at the town of Bow. We found him reposing on the bed, in a doze, but his young wife, then only eighty-six years of age, as we learned from her own mouth, soon roused him up, by telling him two gentlemen had come from Boston to see him. The old man, with considerable effort, raised himself from the bed. We endeavoured to make some conversation with him, but at first found it difficult. He was hard of hearing, he said, and we must excuse him. At length, observing the naval buttons on the Doctor's coat, he inquired if they were a new fashion. I informed him that they were buttons worn only on the coats of naval officers, that the Doctor belonged to the navy. Navy! navy! what is that? This was answered, by inquiring of him, if he did not remember the King's ships? His eye brightened at once. "I guess I do," said he, "I assisted in getting a mast from Bow for the Glasgow frigate, which came into Portsmouth, and wanted a new mast; and we got well paid for it." I then informed him a number of ships were called a navy, and we, Americans, had several ships, and these were our navy. He listened with great pleasure, said he knew the country was prosperous, and was glad we had ships of war. I then told him that we had but a few years before been in a war with England, and had taken, in fair fight, some of the King's ships. The old man laughed most heartily, and said "No, no, the King's ships were never beaten by any thing that swam the ocean." I found it in vain to convince him, and turned the conversation to other subjects. Such as bear hunting, Indian fighting, mast felling; and on all these subjects he was quite at home, and grew quite animated. His eyesight and hearing seemed to come to him, as he became engaged in conversation, and he at moments was truly facetious, and gave us a bear hunt which happened some half century before, with great minuteness. He stated, when it was repeated that we came from Boston, that when he was only thirteen years of age, he was sent to Boston as an apprentice, to learn a goldsmith's trade: but after about a year and a half, returned to Kingston, his native town. He took his staff, marked out on the floor the peninsula of Boston; the heights of land and the directions of the then principal streets; and the wharves that were then built, and the several ship yards, with a most astonishing exactness, as to topography. I should have thought it most miraculous that a man who had not seen the place for ninety and nine years, could have retained all this in his memory, if I had not called to mind that the children of that day made topography as much of a study as the aborogines themselves. They made their tracks by water courses, eminences, or blazed trees; these were the mile-stones of those primitive days. I mentioned to him the names of several men of distinction before the revolution; such as his clergyman, the Rev. Mr. Walker, and General Stark. He spoke of them as I knew to be correct. Capt. Stark's fight on Lake George, he remembered well, and said he had a long conversation with the Captain when he returned from it. He inquired if I had ever seen any one as old as himself. I replied that I had, one gentleman old enough to be his father. I then gave him an account of Henry Francesco, of White Hall, in the State of New York, who had then been dead but about two years; he had died at the age of 134; he was at the coronation of Queen Anne. I detailed the interview I had had with him, but a year or two before his death. Welch listened with

great attention, and made some shrewd inquiries. Mrs. Welch, in an under tone, said she was sorry I had told him the story of Francesco, for he would even wish to live as long. His sense of hearing had now become so acute, that he understood all that she said; and turning round upon us, said, "my wife thinks that I want to live to be as old as Mathuselah, but I think I have got on pretty well as it is; for I took care of my cattle and cut my fire-wood, until I was a hundred and three years old, and I think that is doing as well as my neighbours." While we were there, an itinerant field-preacher came to ascertain the state of his soul, and began to make some inquiries of the aged man; who, turning to us, said, "what shall I say to them folks?" Tell them, said we, that you have lived a century under good orthodox preaching, such as your father lived and died by, and it is now too late to examine a new creed. I have told them, said he, that I could not understand that they had any thing better than father Walker used to give us. We took our leave of the old man, having taken a lock of his white, silky hair, which flowed copiously around his temples. In youth, he must have been about five feet ten inches in height, well proportioned and compactly made. His chest was well expanded, and his head one of the finest I ever saw.

BUSHROD WASHINGTON, the Senior Associate Judge of the Supreme Court of the United States when he died, was the nephew of George Washington, and became heir, by will, to his uncle's books and manuscripts, which amounted to more than sixty volumes. He was born in 1759, and chose the law for his profession. He had a little touch of his uncle's soldiership about him, and went out one campaign towards the close of the revolutionary war, but perhaps wisely thought that *his genius did not in this wise lie.* He was raised from the Virginia bar to the bench of the United States by that great judge of character, John Adams, in 1797. The judge was an excellent man, and was beloved by all who knew him. His person was under the common size, his face pale, his countenance as serene as if he had passed his life in a cloister; there was no mark of passion, or resentment in any lineament of his physiognomy. He had been on the supreme bench for thirty years, and never had but one of his decisions overruled by the full court. He was so cautious, and examined every subject so critically, and thoroughly, that he came to his results by a pure process of reasoning, freed from the prejudices and partialities which so easily beset human nature, even in high places, and responsible stations. He was the favourite nephew of that great and good man who has given immortality to the name of Washington, and was his immediate successor at Mount Vernon. In this mansion for many years he has displayed all the virtues of domestick life, and exercised all those hospitable feelings so prominent in the character of his illustrious uncle. Judge Washington was not content with a faithful discharge of his duty as a magistrate only, but added to it the labours of a member of almost all the charitable societies of the country, which are so many sacrifices that go up to heaven to be heard in mercy, to propitiate through a Redeemer, the Father of all things towards his sinful children on earth. His rank, talents, and influence in society did much to induce the wavering to join in the great work of philanthropy and religion, and to keep steadfast those who had commenced the work in good earnest. He was for several years President of the Colonization Society, and deeply engaged in the objects of that association. He was a slaveholder, but he was not insensible to the evils of the system, which was every day impoverishing his native state, and diminishing her influence in the Federal government. He had the right feelings on the subject; they were drawn from observation and experience, the true sources of intelligence and wisdom.

Judge Washington was so unobtrusive in his manners, so delicate and refined in his feelings, that his merits were not sufficiently known to the great body of the people, for them to estimate his intellectual and moral worth correctly. Like his uncle, he died childless, and left his estate to a collateral branch of his family, who will now take his

place at the hospitable mansion of the great patriot and chieftain, whose name belongs to his country; of whom it was wisely said that "*Heaven wrote him childless, that millions might find in him a father.*" Mount Vernon should no longer be the property of an individual, for it has become a place of pilgrimage for every patriot traveller of the land; and foreigners too, consider the spot where the ashes of Washington repose, as hallowed ground. His bones should ever be mouldering there, and never be removed from these abodes of primitive simplicity. The nation should be proprietors of the soil; the nation should guard the dead, and individuals of his family should be relieved from the perpetual vigils at his tomb, which the veneration of the people for the memory of Washington have made it indispensably necessary for them to keep. The capitol is not a proper place for the ashes of the dead. It should be the lonely spot, or the chancel of the house of God. No echoes of angry passions, or party strife, should be heard in the chambers of the mighty dead; no sound should there be heard but that of prayer and mournful musick. The end of mortal man is there; the hopes of immortal man is there; and "procul, o procul este profani."

The judge died at Philadelphia, on the 26th of November, 1829, aged 70, and his wife followed him to the grave in a few days afterwards. In fact the doors of the family tomb were opened at the same time for the bodies of both.

ANTHONY WAYNE, a major-general in the American army, occupies a conspicuous station among the heroes and patriots of the American revolution. He was born in the year 1745, in Chester county, in the state, then colony, of Pennsylvania. His father, who was a respectable farmer, was many years a representative for the county of Chester, in the general assembly, before the revolution. His grandfather, who was distinguished for his attachment to the principles of liberty, bore a captain's commission under king William, at the battle of the Boyne. Anthony Wayne succeeded his father as a representative for the county of Chester, in the year 1773; and from his first appearance in publick life, distinguished himself as a firm and decided patriot. He opposed, with much ability, the unjust demands of the mother country, and in connexion with some gentlemen of distinguished talents, was of material service in preparing the way for the firm and decisive part which Pennsylvania took in the general contest.

In 1775, he was appointed to the command of a regiment, which his character enabled him to raise in a few weeks, in his native county. In the same year, he was detached under General Thompson, into Canada. In the defeat which followed, in which General Thompson was made a prisoner, Colonel Wayne, though wounded, displayed great gallantry and good conduct, in collecting and bringing off the scattered and broken bodies of troops.

In the campaign of 1776, he served under General Gates, at Ticonderoga, and was highly esteemed by that officer for both his bravery and skill as an engineer. At the close of that campaign he was created a brigadier-general.

At the battle of Brandywine, he behaved with his usual bravery, and for a long time opposed the progress of the enemy at Chad's ford. In this action, the inferiority of the Americans in numbers, discipline and arms, gave them little chance of success; but the peculiar situation of the publick mind was supposed to require a battle to be risked; the ground was bravely disputed, and the action was not considered as decisive. The spirits of the troops were preserved by a belief that the loss of the enemy had equalled their own. As it was the intention of the American commander-in-chief to hazard another action on the first favourable opportunity that should offer, General Wayne was detached with his division, to harass the enemy by every means in his power. The British troops were encamped at Tredyffrin, and General Wayne was stationed about three miles in the rear of their left wing, near the Paoli tavern, and from the precautions he had taken, he considered himself secure; but about eleven o'clock, on the night of the 20th September, Major-general Gray, having driven in his pickets,

suddenly attacked him with fixed bayonets. Wayne unable to withstand the superiour number of his assailants, was obliged to retreat, but formed again at a small distance, having lost about one hundred and fifty killed and wounded. As blame was attached by some of the officers of the army, to General Wayne, for allowing himself to be surprised in this manner, he demanded a court-martial, which, after examining the necessary evidence, declared that he had done every thing to be expected from an active, brave, and vigilant officer; and acquitted him with honour.

A neat marble monument has been recently erected on the battle-ground, to the memory of the gallant men who fell on the night of the 20th September, 1777.

Shortly after was fought the battle of Germantown, in which he greatly signalized himself, by his spirited manner of leading his men into action. In this action, he had one horse shot under him, and another as he was mounting; and at the same instant, received slight wounds in the left foot and left hand.

In all councils of war, General Wayne was distinguished for supporting the most energetick and decisive measures. In the one previous to the battle of Monmouth, he and General Cadwalader were the only officers decidedly in favour of attacking the British army. The American officers are said to have been influenced by the opinions of the Europeans. The baron de Steuben, and generals Lee and Du Portail, whose military skill was in high estimation, had warmly opposed an engagement as too hazardous. But General Washington, whose opinion was in favour of an engagement, made such disposition as would be most likely to lead to it. In that action, so honourable to the American arms, General Wayne was conspicuous in the ardour of his attack. General Washington, in his letter to congress, observes, "Were I to conclude my account of this day's transactions without expressing my obligations to the officers of the army in general, I should do injustice to their merit, and violence to my own feelings. They seemed to vie with each other in manifesting their zeal and bravery. The catalogue of those who distinguished themselves, is too long to admit of particularising individuals. I cannot, however, forbear mentioning brigadier-general Wayne, whose good conduct and bravery, throughout the whole action, deserves particular commendation."

In July, 1779, the American commander-in-chief having conceived a design of attacking the strong post of Stony Point, committed the charge of this enterprise to General Wayne. The garrison was composed of six hundred men, principally Highlanders, commanded by lieutenant-col. Johnson. Stony Point is a considerable height, the base of which, on the one side, is washed by the Hudson river, and on the other, is covered by a morass, over which there is but one crossing-place. On the top of this hill was the fort: formidable batteries of heavy artillery were planted on it, in front of which, breast-works were advanced, and half way down was a double row of abattis. The batteries commanded the beach, and the crossing place of the morass. Several vessels of war were also in the river, whose guns commanded the foot of the hill. At noon, on the fifteenth of July, general Wayne marched from Sandy Beach, and arrived at eight o'clock in the evening, within a mile and a half of the fort, where he made the necessary disposition for the assault. After reconnoitring the situation of the enemy, at half past eleven, he led his troops with unloaded muskets and fixed bayonets, and without firing a single gun, completely carried the fort, and made the garrison, amounting to five hundred and forty three, (the rest being killed,) prisoners. In the attack, while at the head of Febiger's regiment, General Wayne received a wound in the head with a musket-ball, which, in the heat of the conflict, supposing mortal, and anxious to expire in the lap of glory, he called to his aids to carry him forward, and let him die in the fort. The resistance, on the part of the garrison, was very spirited. Out of the forlorn hope of twenty men, commanded by lieutenant Gibbon, whose business it was to remove the abattis, seventeen were killed. For the brave, prudent, and

soldier-like conduct displayed in this achievement, the congress presented general Wayne a gold medal, emblematick of the action.

Immediately after the surrender of Stony Point, general Wayne transmitted to the commander-in-chief, the following laconick letter:

"*Stony Point, July* 16, 1779.
"*2 o'clock, A. M.*

"Dear General—The fort and garrison, with Colonel Johnson, are ours; our officers and men behaved like men determined to be free.

"Yours most sincerely,
"ANTHONY WAYNE.

"GEN. WASHINGTON."

In the campaign of 1781, in which Lord Cornwallis and a British army were obliged to surrender prisoners of war, he bore a conspicuous part. His presence of mind never failed him in the most critical situations. Of this he gave an eminent example on the James river. Having been deceived, by some false information, into a belief that the British army had passed the river, leaving but the rear guard behind, he hastened to attack the latter before it should also have effected its passage; but on pushing through a morass and wood, instead of the rear guard, he found the whole British army drawn up close to him. His situation did not admit of a moment's deliberation. Conceiving the boldest to be the safest measure, he immediately led his small detachment, not exceeding eight hundred men, to the charge, and after a short, but very smart and close firing, in which he lost one hundred and eighteen of his men, he succeeded in bringing off the rest under cover of the wood. Lord Cornwallis, suspecting the attack to be a feint, in order to draw him into an ambuscade, would not permit his troops to pursue.

The enemy having made a considerable head in Georgia, Wayne was despatched by general Washington to take command of the forces in that state, and, after some sanguinary engagements, succeeded in establishing security and order. For his services in that state, the legislature presented him with a valuable farm.

On the peace, which followed shortly after, he retired to private life; but in 1789, we find him a member of the Pennsylvania convention and one of those in favour of the present federal constitution of the United States.

In the year 1792, he was appointed to succeed general St. Clair, who had resigned the command of the army engaged against the Indians, on our western frontier. Wayne formed an encampment at Pittsburgh, and such exemplary discipline was introduced among the new troops, that, on their advance into the Indian country, they appeared like veterans.

The Indians had collected in great numbers, and it was necessary not only to rout them, but to occupy their country by a chain of posts, that should, for the future, check their predatory incursions. Pursuing this regular and systematick mode of advance, the autumn of 1793 found General Wayne with his army, at a post in the wilderness, called Greensville, about six miles in advance of fort Jefferson, where he determined to encamp for the winter, in order to make the necessary arrangements for opening the campaign to effect early in the following spring. After fortifying his camp, he took possession of the ground on which the Americans had been defeated in 1791, which he fortified also, and called the work fort Recovery. Here he piously collected, and, with the honours of war, interred the bones of the unfortunate, although gallant victims of the fourth of November, 1791. This situation of the army, menacing the Indian villages, effectually prevented any attack on the white settlements. The impossibility of procuring the necessary supplies prevented the march of the troops till the summer. On the eighth of August, the army arrived at the junction of the rivers Au Glaize and Miami of the Lakes, where they erected works for the protection of the stores. About thirty miles from this place, the British had formed a post, in the vicinity of which the Indians had assembled their whole force. On the fifteenth the army again advanced down the Miami, and on the eighteenth arrived at the Rapids. On the following day they erected some works for the protection of the baggage. The si-

tuation of the enemy was reconnoitred, and they were found posted in a thick wood, in the rear of the British fort. On the twentieth the army advanced to the attack. The Miami covered the right flank, and on the left were the mounted volunteers, commanded by General Todd. After marching about five miles, Major Price, who led the advance, received so heavy a fire from the Indians, who were stationed behind trees, that he was compelled to fall back. The enemy had occupied a wood in front of the British fort, which, from the quantity of fallen timber, could not be entered by the horse. The legion was immediately ordered to advance with trailed arms, and rouse them from their covert; the cavalry under Captain Campbell, were directed to pass between the Indians and the river, while the volunteers, led by general Scott, made a circuit to turn their flank. So rapid, however, was the charge of the legion, that before the rest of the army could get into action, the enemy were completely routed, and driven through the woods for more than two miles, and the troops halted within gun-shot of the British fort. All the Indians' houses and cornfields were destroyed. In this decisive action, the whole loss of General Wayne's army, in killed and wounded, amounted only to one hundred and seven men. As hostilities continued on the part of the Indians, their whole country was laid waste, and forts established which effectually prevented their return.

The success of this engagement destroyed the enemy's power; and, in the following year, General Wayne concluded a definitive treaty of peace with them.

A life of peril and glory was terminated in December, 1796. He had shielded his country from the murderous tomahawk of the savage. He had established her boundaries. He had forced her enemies to sue for her protection. He beheld her triumphant, rich in arts, and potent in arms. What more could his patriotick spirit wish to see. He died in a hut at Presque Isle, aged about fifty-one years, and was buried on the shore of Lake Erie.

A few years since, his bones were taken up by his son, Isaac Wayne, Esq., and entombed in his native county; and by direction of the Pennsylvania State Society of the Cincinnati, an elegant monument was erected. It is to be seen within the cemetery of St. David's church, situated in Chester county. It is constructed of white marble, of the most correct symmetry and beauty.

When we reflect upon it we cannot help thinking it a little singular, that a trivial matter in verse should give a man an epithet for life, and even for ages: it is a well known fact, that a line has given, or at least perpetuated, the name of "Mad Anthony," for General Wayne. This playful production, called the Cow Chase, has often been quoted, but has not, of late years, been given at length. It was founded on an unsuccessful attempt of the American army to obtain cattle and forage, principally from the tories. The incident is often alluded to in the life of the gallant Wayne, and is sometimes mentioned in the notices of the unfortunate Major Andre. The fate of this officer makes a part of our history, and any thing connected with him becomes interesting. The people of the United States have ever been true to his memory. As his name does not come directly under the plan of this work I will venture, in this connexion of the life of Wayne, to give what we know of him.

John Andre, aid-de-camp to sir Henry Clinton, and adjutant general of the British army in the revolutionary war, was born in England in 1749. His father was a native of Geneva, and a considerable merchant in the Levant trade; he died in 1769. Young Andre was destined to mercantile business, and attended his father's counting house, after having spent some years for his education at Geneva. He first entered the army in January, 1771. At this time he had a strong attachment to Honoria Sneyd, who afterwards married Mr. Edgeworth. In 1772 he visited the courts of Germany, and returned to England in 1773. He landed at Philadelphia in Sept. 1774, as lieutenant of the Royal English Fusileers; and soon proceeded by way of Boston to Canada to join his regiment. In 1775 he was taken prisoner by Montgomery, at St.

John's; but was afterwards exchanged, and appointed captain. In the summer of 1777 he was appointed aid to Gen. Grey, and was present at the engagements in New Jersey and Pennsylvania in 1777 and 1778. On the return of Gen Grey, he was appointed aid to Gen. Clinton. In 1780 he was promoted to the rank of major, and made adjutant general of the British army.

After Arnold had intimated to the British, in 1780, his intention of delivering up West Point to them, Major Andre was selected as the person, to whom the maturing of Arnold's treason and the arrangements for its execution should be committed. A correspondence was for some time carried on between them under a mercantile disguise, and the feigned names of Gustavus and Anderson; and at length, to facilitate their communications, the Vulture sloop of war moved up the North River, and took a station convenient for the purpose, but not so near as to excite suspicion. An interview was agreed on, and in the night of September 21, 1780, he was taken in a boat, which was despatched for the purpose, and carried to the beach, without the posts of both armies, under a pass for John Anderson. He met General Arnold at the house of a Mr. Smith. While the conference was yet unfinished daylight approached; and to avoid the danger of discovery, it was proposed that he should remain concealed till the succeeding night. He is understood to have refused to be carried within the American posts, but the promise made him by Arnold to respect this objection was not observed. He was carried within them contrary to his wishes and against his knowledge. He continued with Arnold the succeeding day, and when on the following night he proposed to return to the Vulture, the boatman refused to carry him, because she had during the day shifted her station, in consequence of a gun having been moved to the shore and brought to bear upon her. This embarrassing circumstance reduced him to the necessity of endeavouring to reach New York by land. Yielding with reluctance to the urgent representations of Arnold, he laid aside his regimentals, which he had hitherto worn under a surtout, and put on a plain suit of clothes; and receiving a pass from the American general, authorizing him, under the feigned name of John Anderson, to proceed on the publick service to the White Plains, or lower if he thought proper, he set out on his return in the evening of the 22d, accompanied by Joshua Smith, and passed the night at Crompond. The next morning he crossed the Hudson to King's Ferry on the east side. A little beyond the Croton, Smith, deeming him safe, bade him adieu. He had passed all the guards and posts on the road without suspicion, and was proceeding to New York in perfect security, when September 23d, one of the three militia men, who were employed with others in scouting parties between the lines of the two armies, springing suddenly from his covert into the road, seized the reins of his bridle and stopped his horse. Instead of producing his pass, Andre, with a want of self-possession, which can be attributed only to a kind providence, asked the man hastily where he belonged, and being answered, "to below," replied immediately, "and so do I." He then declared himself to be a British officer, on urgent business, and begged that he might not be detained. The other two militia men coming up at this moment, he discovered his mistake; but it was too late to repair it. He offered them his purse and a valuable watch, to which he added the most tempting promises of ample reward and permanent provision from the government, if they would permit him to escape; but his offers were rejected without hesitation.

The militia men, whose names were John Paulding, David Williams, and Isaac Van Wart, proceeded to search him. They found concealed in his boots exact returns, in Arnold's handwriting, of the state of the forces, ordnance, and defences at West Point and its dependencies, critical remarks on the works, and an estimate of the men ordinarily employed in them, with other interesting papers. Andre was carried before Lieut. Col. Jameson, the officer commanding the scouting parties on the lines, and regardless of himself, and only anxious for the safety

of Arnold, he still maintained the character which he had assumed, and requested Jameson to inform his commanding officer, that Anderson was taken. A letter was accordingly sent to Arnold, and the traitor, thus becoming acquainted with his danger, escaped. The narrative of the bearer of this letter, Mr. Solomon Allen, is given in the sketch of his life: it differs in several respects from the account of the affair in the Encyclopædia Americana, and throws light upon circumstances which have been heretofore obscure.

A board of general officers, of which Major General Greene was president, and the two foreign generals, Lafayette and Steuben, were members, was called to report a precise state of the case of Andre, who had acknowledged himself adjutant general of the British army, and to determine in what character he was to be considered, and to what punishment he was liable. He received from the board every mark of indulgent attention; and from a sense of justice, as well as of delicacy, he was informed on the first opening of the examination, that he was at perfect liberty not to answer any interrogatory which might embarrass his own feelings. But he disdained every evasion, and frankly acknowledged every thing which was material to his condemnation.

"I came," said he, "to hold a communication with a general officer of the American army, by the order of my own commander. I entered the American lines by an unquestionable authority: when I passed from them it was by the same authority. I used no deception. I had heard that a provincial officer had repented of the course he had taken, and that he avowed, that he never meant to go so far as he had gone in resisting the authority of his king. The British commander was willing to extend to him the king's clemency; yea, his bounty, in hopes to allure others to do the same. I made no plans; I examined no works;—I only received his communications, and was on my way to return to the army, and to make known all I had learned from a general officer in your camp. Is this the office of a spy? I never should have acted in that light, and what I have done is not in the nature of a spy. I have noted neither your strength, or nakedness. If there be wrong in the transaction, is it mine?

"The office of a spy, a soldier has a right to refuse; but to carry and fetch communications with another army, I never heard was criminal. The circumstances which followed after my interview with General Arnold, were not in my power to control. He alone had the management of them.

"It is said that I rode in disguise. I rode for security, incog. as far as I was able, but other than criminal deeds induce one to do this. I was not bound to wear my uniform any longer than it was expedient or politick. I scorn the name of a spy; brand my offence with some other title, if it change not the punishment, I beseech you. It is not death I fear. I am buoyed above it by a consciousness of having intended to discharge my duty in an honourable manner.

"Plans, it is said, were found with me. This is true; but they were not mine; yet I must tell you, honestly, that they would have been communicated if I had not been taken. They were sent by General Arnold to the British commander, and I should have delivered them. From the bottom of my heart I spurn the thought of attempting to screen myself by criminating another; but as far as I am concerned, the truth shall be told, whoever suffers. It was the allegiance of General Arnold that I came out to secure. It was fair to presume that many a brave officer would be glad, at this time, to have been able to retrace his steps; at least we have been so informed. Shall I, who came out to negotiate this allegiance only, be treated as one who came to spy out the weakness of a camp? If these actions are alike I have to learn my moral code anew.

"Gentlemen officers, be it understood that I am no supplicant for mercy; that I ask only from Omnipotence, not from human beings. Justice is all I claim; that justice which is neither swayed by prejudice nor distorted by passion; but that which flows from honourable minds, directed by virtuous determinations. I hear, gentlemen, that my case is

likened to that of Captain Hale, in 1776. I have heard of him and his misfortunes. I wish that in all that dignifies man, that adorns and elevates human nature, that I could be named with that accomplished but unfortunate officer. His fate was wayward and untimely; he was cut off yet younger than I now am. But ours are not parallel cases. He went out knowing that he was assuming the character of a spy; he took all its liabilities on his head, at the request of his great commander. He was ready to meet what he assumed, and all its consequences. His death the law of nations sanctioned. It may be complimentary to compare me with him, still it would be unjust. He took his life in his hand when he assumed the character and the disguise. I assumed no disguise, nor took upon myself any other character than that of a British officer, who had business to transact with an American officer.

"In fine, I ask not even for justice; if you want a victim to the manes of those fallen untimely, I may as well be that victim as another. I have in the most undisguised manner given you every fact in the case. I rely only on the proper construction of these facts. Let me be called any thing but a spy. I am not a spy; I have examined nothing—learned nothing—communicated nothing but my detention to Arnold, that he might escape, if he thought proper so to do. This was, as I conceived, my duty. I hope the gallant officer, who was then unsuspicious of his general, will not be condemned for the military errour he committed.

"I further state that Smith, who was the medium of communication, did not know any part of our conference, except that there was some necessity for secrecy. He was counsel in various matters for General Arnold, and from all the intercourse I had with him,—and it was Smith who lent me this dress-coat of crimson, on being told by General Arnold that my business was of that private nature that I did not wish to be known by English or Americans, —I do not believe that he had even a suspicion of my errand. On me your wrath should fall if on any one, I know your affairs look gloomy, but that is no reason why I should be sacrificed. My death can do your cause no good. Millions of friends to your struggle in England you will lose if you condemn me. I say not this by way of threat, for I know brave men are not awed by them; nor will brave men be vindictive because they are desponding. I should not have said a word had it not been for the opinion of others which I am bound to respect.

"I have done. The sentence you this day pronounce will go down to posterity with exceeding great distinctness, on the page of history; and if humanity and honour mark this day's decision, your names, each and all of you, will be remembered by both nations when they have grown greater and more powerful than they now are; but if misfortune befalls me, I shall, in time, have all due honours paid to my memory. The martyr is kept in remembrance when the tribunal that condemned him is forgotten. I trust this honourable court will believe me when I say, that what I have spoken comes from no idle fears of a coward. I have done."

The court deliberated long, and at last came to the decision, *that Major Andre was a spy, and ought to suffer death.* He was calm as a philosopher when the award of the court was read.

The morning of the 2d of October, 1780, dawned upon the American army. This time was fixed for the execution of the prisoner. It was some distance from the prison to the place of execution, and this the prisoner desired to walk. There had been some fog during the night, which was now settling about the surrounding mountains. Some of the leaves had begun to wear an autumnal appearance. The army was drawn out to witness the sad spectacle. He passed through files of soldiers, on whose pale faces sat the utmost melancholy, bowing to every one he knew.

As the prisoner came within sight of the gallows, he turned to the officers who were with him, and said, "Could not this have been otherwise?" He was answered, no. "Well, then," said he, "it is only one pang. I am reconciled to my death, but not to the manner of it.

Soldiers, bear witness that I die like a brave man." His manly air—his cheek, fresh as from morning exercise—his nerves firm as ever were in a human frame—his softened tone of voice — his sweet smile, — were all witnessed by the spectators; and as he was launched into eternity, a groan involuntarily burst from the bottom of every bosom.

The greatest exertions were made by Sir Henry Clinton, to whom Andre was particularly dear, to rescue him from his fate. It was first represented, that he came on shore under the sanction of a flag; but Washington returned an answer to Clinton, in which he stated, that Andre had himself disclaimed the pretext. An interview was next proposed between Lieut. Gen. Robertson and General Greene; but no facts, which had not before been considered, were made known. When every other exertion failed, a letter from Arnold, filled with threats, was presented.

The sympathy excited among the American officers by his fate, was as universal as it is unusual on such occasions; and proclaims the merit of him who suffered and the humanity of those who inflicted the punishment. In 1821 the bones of Andre were dug up and carried to his native land by royal mandate.

The following poem from the pen of Andre, was furnished me from the collection of that veteran officer, and profound statesman, Colonel Burr, whose library will, hereafter, furnish materials for the historian of the revolutionary war; and if aided by his copious reminiscences, the assistance will be invaluable; for no man ever possessed a clearer head or a stouter heart. We have had much of prejudice and partiality; it is time to get at the truth. The satire of this poem is now harmless;—the writer and his subject are no more. He swept about him with a free, careless, and an unjust hand, but all wish to know by what machinery the mighty struggle was managed, and every scrap that was written, and every thing said or done in that time, should be recorded. It is a relick of the revolution, and that is a sufficient apology for its preservation.

THE COW CHACE.

CANTO I.

To drive the Kine one summer's morn,
  The Tanner took his way,
The calf shall rue that is unborn
  The jumbling of that day.

And Wayne descending Steers shall know
  And tauntingly deride,
And call to mind in ev'ry Low
  The tanning of his hide.

Yet Bergen Cows still ruminate
  Unconscious in the stall,
What mighty means were used to get
  And loose them after all.

For many Heroes bold and brave
  From New-Bridge and Tapaan,
And those that drink Passaick's wave,
  And those that eat Soupaan.

And Sons of distant Delaware
  And still remoter Shannon,
And Major Lee with Horses rare
  And Proctor with his cannon.

All wondrous proud in arms they came,
  What hero could refuse?
To tread the rugged path to fame,
  Who had a pair of shoes.

At six the Host with sweating buff,
  Arrived at Freedom's Pole,
When Wayne who thought he'd time enough.
  Thus speechified the whole.

O ye whom glory doth unite
  Who Freedom's cause espouse,
Whether the wing that's doom'd to fight
  Or that to drive the Cows.

Ere yet you tempt your further way
  Or into action come,
Hear, Soldiers, what I have to say,
  And take a pint of Rum.

Intemp'rate valour then will string,
  Each nervous arm the better,
So all the land shall IO sing
  And read the Gen'ral's letter.

Know that some paltry Refugees,
  Whom I've a mind to fight,
Are playing H—l amongst the trees,
  That grow on yonder height.

Their Fort and Block Houses we'll level,
  And deal a horrid slaughter,
We'll drive the Scoundrels to the Devil,
  And ravish wife and daughter.

I under cover of th' attack,
  Whilst you are all at blows,
From English Neighb'rhood and Tinack
  Will drive away the Cows.

For well you know the latter is
  The serious operation,
And fighting with the Refugees
  Is only demonstration.

His daring words from all the crowd,
  Such great applause did gain,
That every man declar'd aloud
  For serious work with Wayne.

Then from the cask of Rum once more
  They took a heady jill,

When one and all they loudly swore,
They'd fight upon the Hill.

But here——the Muse has not a strain
Befitting such great deeds,
Huzza they cried, huzza for Wayne,
And shouting——did their Needs.

End of Canto the 1st.

CANTO II.

Near his meridian pomp, the Sun
Had journey'd from the hor'zon,
When fierce the dusky Tribe mov'd on,
Of Heroes drunk as poison.

The sounds confus'd of boasting Oaths,
Re-echoed thro' the Wood,
Some vow'd to sleep in dead Men's Clothes
And some to swim in blood.

At Irvine's Nod 'twas fine to see,
The left prepare to fight,
The while the Drovers, Wayne and Lee,
Drew off upon the Right.

Which Irvine 'twas, Fame don't relate,
Nor can the Muse assist her,
Whether 'twas he that cocks a Hat
Or he that gives a Glister.

For greatly one was signaliz'd,
That fought at Chestnut-Hill,
And Canada immortaliz'd,
The Vender of the Pill.

Yet the Attendance upon Proctor,
They both might have to boast of;
For there was Business for the Doctor,
And hats to be disposed of.

Let none uncandidly infer,
That Stirling wanted Spunk,
The self-made Peer had sure been there,
But that the Peer was drunk.

But turn we to the Hudson's Banks,
Where stood the modest Train,
With Purpose firm, tho' slender Ranks,
Nor car'd a Pin for Wayne.

For them the unrelenting Hand
Of rebel Fury drove,
And tore from ev'ry genial Band,
Of Friendship and of Love.

And some within a Dungeon's Gloom,
By mock Tribunals laid,
Had waited long a cruel Doom,
Impending o'er their Heads.

Here one bewails a Brother's Fate,
There one a Sire demands,
Cut off, alas! before their Date,
By ignominious Hand.

And silver'd Grandsires here appear'd
In deep Distress serene,
Of reverend manners that declared,
The better Days they'd seen.

Oh curs'd Rebellion these are thine,
Thine are these Tales of Woe,
Shall at thy dire insatiate Shrine
Blood never cease to flow?

And now the Foe began to lead
His Forces to th' Attack;
Balls whistling unto Balls succeed,
And make the Block-House crack.

No shot could pass, if you will take
The Gen'ral's word for true;
But 'tis a d——ble Mistake,
For ev'ry shot went thro'.

The firmer as the Rebels press'd,
The loyal Heroes stand;
Virtue had nerv'd each honest Breast,
And Industry each Hand.

"In' Valour's Phrenzy, Hamilton,
"Rode like a soldier big,
"And Secretary Harrison,
"With Pen stuck in his Wig."

"But least their Chieftain Washington,
"Should mourn them in the Mumps,*
"The Fate of Withrington to shun,
"They fought behind the stumps."

But ah, Thadæus Posset, why
Should thy Poor Soul elope,
And why should Titus Hooper die,
Ah die—without a Rope?

Apostate Murphy, thou to whom
Fair Shela ne'er was cruel,
In Death shall† hear her mourn thy Doom,
Auch wou'd you die my Jewel?

Thee Nathan Pumpkin, I lament,
Of melancholy Fate,
The Grey Goose stolen as he went,
In his Heart's Blood was wet.

Now as the Fight was further fought,
And Balls begun to thicken,
The Fray assum'd the Gen'rals thought,
The Colour of a licking.

Yet undismay'd the Chiefs Command,
And to redeem the Day,
Cry, Soldiers charge! they hear, they stand,
They turn and run away.

End of Canto the IId

CANTO III.

Not all delights the bloody spear,
Or horrid din of battle,
There are, I'm sure, who'd like to hear
A word about the cattle.

The Chief whom we beheld of late,
Near Schralenberg haranguing,
At Van Van Poop, unconscious sat
Of Irving's hearty banging.

Whilst valiant Lee, with courage wild,
Most bravely did oppose
The tears of woman and of child,
Who begg'd he'd leave the cows.

But Wayne, of sympathizing heart,
Required a relief,
Not all the blessings could impart
Of battle or of beef.

For now a prey to female charms,
His soul took more delight in
A lovely‡ Hamadryad's arms,
Than cow driving or fighting:

A nymph, the Refugees had drove
Far from her native tree,

* Vide Lee's Trial.

† "A disorder prevalent in the Rebel Lines,
" The merit of these Lines, which is doubt-
" less very great, can only by felt by true
" Connoisseurs conversant in ancient song."

‡ A Deity of the woods.

Just happen'd to be on the move,
When up came Wayne and Lee.

She in mad Anthony's fierce eye
The Hero saw portray'd,
And all in tears she took him by
———The bridle of his Jade.

Hear, said the Nymph, O great Commander!
No human lamentations;
The trees you see them cutting yonder,
Are all my near relations.

And I, forlorn! implore thine aid,
To free the sacred grove;
So shall thy prowess be repaid
With an immortal's love.

Now some, to prove she was a Goddess!
Said this enchanting fair
Had late retired from the *Bodies*,*
In all the pomp of War.

That drums and merry fifes had play'd
To honour her retreat,
And Cunningham himself convey'd
The Lady thro' the street.

Great Wayne, by soft compassion sway'd,
To no enquiry stoops,
But takes the fair afflicted maid
Right into Van Van Poop's.

So Roman Anthony, they say,
Disgrac'd th' imperial banner,
And for a gypsy lost a day,
Like Anthony the Tanner.

The Hamadryad had but half
Receiv'd redress from Wayne,
When drums and colours, cow and calf,
Came down the road amain.

All in a cloud of dust were seen
The sheep, the horse, the goat,
The gentle heifer, ass obscene,
The Yearling and the shoat.

And pack-horses with fowls came by,
Beleathered on each side,
Like Pegasus, the horse that I
And other poets ride.

Sublime upon his stirrups rose
The mighty Lee behind,
And drove the terror-smitten cows,
Like chaff before the wind.

But sudden see the woods above
Pour down another corps,
All helter skelter in a drove,
Like that I sung before.

Irving and terror in the van,
Came flying all abroad,
And cannon, colours, horse and man
Ran tumbling to the road.

Still as he fled, 'twas Irving's cry,
And his example too,
"Run on, my merry men all—For why?"
† The shot will not go thro'.

*A cant appellation given amongst the soldiery to the corps that has the honour to guard his Majesty's person.

† Five Refugees ('tis true) were found
Stiff on the block house floor,
But then 'tis thought the shot went round,
And in at the back door.

As when two kennels in the street,
Swell'd with a recent rain,
In gushing streams together meet,
And seek the neighbouring drain;

So met these dung-born tribes in one,
As swift in their career,
And so to Newbridge they ran on,—
But all the cows got clear.

Poor parson Caldwell, all in wonder,
Saw the returning train,
And mourn'd to Wayne the lack of plunder,
For them to steal again.

For 'twas his right to seize the spoil, and
To share with each commander,
As he had done at Staten Island
With frost-bit Alexander.

In his dismay the frantic priest
Began to grow prophetic,
You had swore, to see his lab'ring breast,
He'd taken an emetic.

I view a future day, said he,
Brighter than this day dark is,
And you shall see what you shall see,
Ha! ha! one pretty Marquis;

And he shall come to Paules-Hook,
And great achievements think on,
And make a bow and take a look,
Like Satan over Lincoln.

And all the land around shall glory
To see the Frenchmen caper,
And pretty Susan tell the story
In the next Chatham paper.

This solemn prophecy, of course,
Gave all much consolation,
Except to Wayne, who lost his horse
Upon the great occasion.

His horse that carried all his prog,
His military speeches,
His corn-stalk whisky for his grog,
Blue stockings and brown breeches.

And now I've closed my epic strain,
I tremble as I show it,
Lest this some warrio-drover, Wayne,
Should ever catch the poet.

COL. MARINUS WILLETT was born on the 31st July (O. S.) 1740, at Jamaica, Long Island, the youngest of six sons of Edward Willett, a respectable farmer in Queens county.

When young Willett was about sixteen years of age, he witnessed the lawless conduct of some press-gangs in seizing several American citizens, and taking them on board of some British ships then lying in the harbour of New York. The occurrence made a vivid impression on his youthful mind, and prepared him to lend a zealous support to any movements which promised to relieve the colonists from similar outrages.

Within a short time afterwards,

the preparations made in the colonies, for the conquest of Canada, excited his military enthusiasm, and having obtained a commission as second lieutenant in a colonial regiment, commanded by Colonel Delancy, in 1758, he joined the army under General Abercrombie, which was destined against Ticonderoga, and Crown Point. This expedition was rendered abortive by the skill of Montcalm, who repulsed their attack upon Ticonderoga, killing and wounding nearly two thousand of the British and provincial troops. To repair the disgrace of this bloody repulse, General Abercrombie detached Colonel Bradstreet, with 3,000 men, against Fort Frontenac, (now Kingston.)

Lieutenant Willett, who had behaved with great coolness and courage in the assault upon Ticonderoga, was detailed on this expedition. Colonel Bradstreet succeeded in reducing the fort, but the men and officers under his command were exposed to severe fatigue, in marching through the wilderness, and conveying their baggage, ammunition, and artillery, from Fort Stanwix, where the troops assembled, to move directly upon Frontenac. Six days were consumed in moving from the head of Wood Creek to Oswego, from which place they were transported in light craft to the place of their destination. Fort Frontenac was destroyed after its surrender, August 27, and the troops were subjected to still greater fatigue in returning, being obliged to carry with them the valuable articles captured in the fort. From this exposure, one half of the detachment were rendered unfit for duty upon arriving at Fort Stanwix, and Lieut. Willett was confined there until the end of the campaign. The feeble state of his health in consequence of this expedition, prevented him from serving again during the French war; but this early initiation into the mode of warfare in a new country, was of great advantage to him in a subsequent part of his career. Within a few years after the termination of the French war, the British government commenced that course of aggressions upon the rights of the colonies, which finally led to open resistance. In resolving upon this step, the American patriots were sensible of the entire want of preparation throughout the colonies, to carry on a war, and it was an object of some importance to prevent the removal of those arms and military munitions that belonged to the royal government. When the news of the battle of Lexington flew through the country, the whigs in the seaports of the middle and southern states, formed themselves in juxta-position with the royal troops, and those provincial authorities that were still reluctant to abandon the connexion with Great Britain. In some of these places, the tories formed a strong party, and they were in some measure countenanced by a larger number of respectable citizens, who still hesitated to take any irrevocable steps.

Such was peculiarly the state of things in the city of New York, and when the British troops which garrisoned the city, were ordered after the battle of Lexington to join the army in Boston, with the view of preventing bloodshed, it was agreed to permit them to embark with their arms and accoutrements.

Mr. Willett was opposed to this agreement, and wished to detain the troops as prisoners. He was however, overruled in this, and the troops were suffered to depart without molestation. The British commander, however, in addition to the arms of the soldiers, undertook to carry off with him several chests of spare arms belonging to the regiment. Willett, aided by several zealous whigs, determined to prevent it, and accordingly, when the regiment was on its line of march to the place of embarkation, Lieut. Willett arrested the baggage carts which were in front of the column, and by his prompt and energetick course, although opposed by the Mayor, and several influential whigs, finally succeeded in taking possession of the carts containing the spare arms; which were used in arming the first regiment raised by the state of New York.

The war had now commenced, and three regiments being raised by New York, Lieut. Willett entered the one commanded by Colonel McDougall, in which he was made second captain. He was appointed on

the 28th of June, 1775, and on the 8th of August he embarked for Albany, to join the expedition under Gen. Montgomery, destined against the British forts on Lakes George and Champlain. After the reduction of these places, Captain Willett was ordered to take command of St. John's, which post he held until January, 1776, when the term for which his men had enlisted expiring, he was relieved and returned home. The war now having assumed a threatening aspect, the army was put upon a different footing. Of the new regiments to be raised, New York was to furnish four, and of the third of these, Captain Willett was appointed Lieut. Colonel. At the opening of the campaign in 1777, Col. Willett was placed in command of Fort Constitution, where he remained until the 18th of May, when he was ordered to repair to Fort Stanwix. Upon his arrival at this place on the 29th of May, he found the fort in an untenable condition, and an incompetent engineer employed in repairing the works. His incompetency was soon discovered, and upon the suggestion of Colonel Willett, Colonel Gandevoort, the chief in command, ordered him to be arrested, and sent to head quarters. In the mean time, dangers began to thicken around the garrison. Indians were discovered prowling about the fort, and several persons, who ventured beyond the protection of the works, were killed, and scalped. About the middle of July, one of the scouting parties was attacked, and it was thought necessary to use every exertion to put the fortress in a state of defence, which was effected by the 1st of August. The next day a large supply of ammunition and provisions, together with a reinforcement of 200 men, arrived, and scarcely had the stores been conveyed into the fort, when the army which had been dispatched by General Burgoyne, under Colonel St. Leger, to reduce Fort Stanwix, appeared, and invested the place. The garrison, now consisting in the whole of 750 men, prepared to maintain the post, upon the successful defence of which, the safety of Albany and of Gates' army was thought to depend.

On the 4th of August, the fire upon the fort was commenced by the enemy, and was continued during that and the next day. The morning of the 6th, two men arrived at the fort, informing the commander, that General Herkimer was raising the militia of Tryon county, with the view of raising the siege.

Upon the receipt of this intelligence, it was determined to make a sortie upon the enemy's camp, in order to effect a diversion in favour of General Herkimer. A detachment of 250 men sallied forth for this purpose, under Colonel Willett, and driving in the sentries, forced the camp where Sir John Johnson was stationed, dispersed the Indians, and took possession of the camp equipage and stores, which he brought into the fort. The sortie was completely successful, and without the loss of a man on the American side.

While this attack was thus happily conducted, General Herkimer, who was marching without proper military precaution, fell into an ambush, and was defeated with considerable loss; he himself being badly wounded, and dying from unskilful treatment, shortly after the engagement. The siege was now resumed, and a flag was sent to the garrison, threatening them with the terrours of an Indian massacre, in case of their refusing to surrender. This threat was treated with contempt, and as the defeat of General Herkimer, put an end to all expectation of relief from the militia, it was deemed advisable to dispatch some person from the fort, to inspirit the country militia to make another attempt to raise the siege. Col. Willett was well known in that quarter, and with the view of relieving his companions from their dangerous position, he gallantly determined to attempt to pass through the enemy's camp, and to make his way through a pathless forest, to the settlements down the Mohawk river, which were about fifty miles distant. On the night of the 10th of August, accordingly, Col. Willett, and Major Stockwell left the fort together, with no arms except spears, and without any provisions, except a few crackers and some cheese; made their way through an adjoining marsh; crossed the river undiscovered by the sentinels, and passed safely through the

enemy's camp. They then continued their journey all the next day; slept on the ground, without even a blanket during the night, and the second day after leaving Fort Stanwix, about three o'clock, arrived at the German Flatts, where they were received by Colonel Weston. Here they were informed, that General Learned was on his march with a Massachusetts brigade to relieve the fort. The next day, proceeding on, they met these troops, who, together with the of the New York regiments, all under the command of Gen. Arnold, hurried on to relieve Fort Stanwix.

Before, however, they reached the place, the British army hearing of their approach, and not being able to induce Col. Gandevoort to surrender, suddenly abandoned the siege, and retreated into Canada.

Col. Willett was now left in command of the fort, in which station he continued, except while visiting his family, until the following June, when he joined the army under Washington, and was present at the battle of Monmouth, where he acted as a volunteer aid to Gen. Scott of Virginia.

The next campaign, i. e. of 1779, he was with Gen. Sullivan in his expedition against the western Indians. After he returned from that expedition, which was entirely successful, Col. Willett was stationed near Morristown, and occasionally acted in beating up the enemy's quarters, during the winter of that year.

Towards the close of 1780, the New York regiments were reduced to two, and Col. Willett was ordered to take command of all the levies, and state troops raised to protect the northwest frontier of the state against the incursions of the tories and Indians, who were a severe scourge to the settlers on the Mohawk. Col. Willett had under his command less than 200 men, independent of the militia, who were scattered through the country, and yet with this small force, he contrived, by his untiring energy and devotion, to repel the enemy, and often inflicted a severe chastisement upon them in their predatory expeditions.

In one of these under Col. Ross, the tories and their savage auxiliaries, amounting in all to nearly 1000 men, were subjected to so heavy a loss, independent of the death of the famous partizan Major Butler, that they were unable to undertake any considerable expedition for the rest of the year (1782.)

In the winter of that year he attempted to surprise the British garrison at Oswego; but failed from a mistake of the Indian guide, and retired without making an assault, with the loss of but one man, who was frozen to death. During this march the news of peace arrived, and Col. Willett retired from the army, with the entire confidence of Washington, and the gratitude of the people of this state, to whom he had afforded adequate relief and protection. The estimation in which he was held by his fellow citizens, was manifested by their making him sheriff of New York, directly after the war, which office he held four years.

Difficulties however still continued with the Southern Indians, and after the adoption of the federal constitution, President Washington determined to send a commissioner to induce them to enter into a treaty.

Colonel Willett was accordingly selected to go into the Creek country, and after a long and fatiguing journey, not unattended with danger, through a wilderness filled with Indians, whose pacifick disposition was doubtful, he arrived, attended by a German servant and an Indian guide, among the Creek settlements. Here he was well received, and finally persuaded them to send McGillivray and other principal chieftains to New York, where a treaty was made, which relieved Georgia from a war with the powerful tribes of southern Indians. After his return from the Creek mission, he was again appointed sheriff, which office he held for another term of four years.

The same year, (1792,) he was appointed Brigadier General in the army intended to act against the northwestern Indians. This appointment, however, he declined, thinking an Indian war ought to be avoided, and offered his services to mediate a peace, but the difficulties occurring shortly after in the city of New York compelled him to remain at his post as sheriff. In 1807 he

was appointed Mayor of the city, and in 1824 he was chosen elector of President and Vice President of the United States, and by the electors afterwards made the President of the electoral college. He voted in favour of Mr. Adams, and at the subsequent election in 1828, his opinion of his fitness for his high station being strengthened, he was again placed upon the electoral ticket, which was supported by the administration party in the city of New York. That ticket did not succeed, and Col. Willett, who was then at a very advanced age, soon after became too much enfeebled to quit his mansion.

A few months before his death he was attacked by a paralysis, and on the 23d of August, 1830, he yielded his patriotick and ardent spirit into the hands of his Maker, with the steadfast hope of a Christian, and the humble confidence of one whose life was devoted to the service of his country.

Colonel Willett was one of the best specimens of the patriots of the revolution. In his character were combined traits of chivalrick daring, gentleness and humanity which belonged to a less degenerate age.

His courage and presence of mind were displayed not only at the head of his regiment, but in the lone and pathless wilderness, when surrounded by Indians, and sustained only by his own innate energies. He never shrank from danger nor responsibility, when the general weal required him to expose himself; and while in private life his integrity, frankness, and decision, endeared him to his friends and acquaintance; his fearless intrepidity and self-devotion in the publick service gave him a strong hold upon the affections of the community.

Colonel Willett died at New York, August 23d, 1830, in the 91st year of his age.—*Amer. Annual Register.*

HUGH WILLIAMSON, M. D., L.L.D., was a native of Pennsylvania; he was born on the 5th of December 1735, in West Nottingham township, near Octarara river, which divides Chester from Lancaster county. His parents were natives of Ireland, but their earlier ancestors, it is believed, came originally from Scotland.

His father, John Williamson, was an industrious tradesman, who had pursued his business, that of a clothier, in the city of Dublin. He came to America, and settled in Chester county, about the year 1730.

The mother of Dr. Williamson, Mary Davison, was a native of Derry: with her father, George Davison, she came to this country, when a child about three years of age: on their way to America they were captured and plundered on the coast, by Theach, the noted pirate Blackbeard: upon being released, they arrived at Philadelphia. She died after having attained her 90th year. The parents of Dr. Williamson were married in the year 1731, shortly after his father's arrival in this country: and ten children, viz. six sons and four daughters, were the fruits of that connexion. Hugh was the eldest son.

His parents were both distinguished for their undeviating integrity—their habits of industry and frugality—their great moral worth, and attention to the duties of religion.

Mr. Williamson enjoyed the advantages of being educated in one of the most celebrated of our American institutions, then under the care of Dr. Alison, in whose school he remained until he had made great proficiency in all those branches of learning that were considered necessary for his admission into college.

In the prosecution of his studies, while at school, he distinguished himself by his diligence, his love of order, and his correct, moral, and religious deportment; for, even at that early age, he had imbibed from his parents and instructers, a due sense of that intimate connexion which subsists between letters and morality, between sensibility and taste, between an improved mind and a virtuous heart.

Thus prepared under the care of his eminent teachers, he retired from the seminary of Dr. Alison, and, at his father's house, applied himself to the study of Euclid's Elements, of which, in a short time, he became master.

The father now proposed to send his son to Europe to finish his education, that had been so successfully begun; but, as a charter had been obtained for the academy in Philadelphia, about the time he was to have sailed, it was concluded that he

should immediately proceed to that city. Accordingly, he entered in the first class in the College of Philadelphia, where he remained four years; and at the first commencement held in that college, on the 17th day of May, 1757, he received the degree of Bachelor of Arts.

During this period of his residence with his mother, then a widow, he devoted much of his time to the study of divinity, frequently visiting Dr. Samuel Finley, an eminent divine, who at that time preached at East Nottingham township, Chester county, and who then directed his pursuits. In 1759, Mr. Williamson went to Connecticut, where he still pursued his theological studies, and was licensed to preach the Gospel. After his return from Connecticut, he was also admitted a member of the presbytery of Philadelphia. He preached but a short time, not exceeding two years, and then his preaching must have been only occasional; he never was ordained, or took charge of a congregation, for his health did not permit him to perform the stated duties of a pastor.

In the year 1760, he received the degree of Master of Arts, in the College of Philadelphia, and was immediately after appointed the professor of mathematicks in that institution. Shortly after, in 1763, he resigned his professorship, and in 1764, he left his native country for Europe, for the purpose of prosecuting his medical studies at Edinburgh. At the close of the lectures he left Edinburgh, made a tour through the northern parts of Scotland, after which he proceeded to London, where he remained twelve months, diligently pursuing his studies, and, as at Edinburgh, by his zeal, attracting the notice and kind attentions of his instructers. From London he crossed over to Holland, and proceeded to Utrecht, where he completed his medical education. Having passed the usual examination, in which he displayed his classical and medical attainments, and having submitted to the professors of that University a Latin thesis, he obtained the degree of M.D. He afterwards amused himself with a tour on the continent, from which he returned to his native country in a state of health considerably improved.

After his return, Dr. Williamson practised medicine in Philadelphia for some years with success, as it respected the health of his patients, but with painful effects as it regarded his own. By the occasional loss of sleep, to which he was necessarily exposed, his constitution soon became impaired; and so acute was his sensibility to the sufferings of the sick, that he seldom had a patient in imminent danger, without experiencing a febrile excitement of the system. He therefore resolved to abandon medicine, and to attempt the relief of his constitution by mercantile pursuits. Fortunately for science this resolution was soon abandoned.

Shortly after this time, the attention of the philosophers, both of Europe and America, was directed to an event which was about to take place, of great importance to astronomical science and to navigation: the transit of Venus over the sun's disk, which occurred on the 3d day of June, 1769. This subject had already engaged the attention of the astronomers of the other hemisphere.

At a meeting of the American Philosophical Society, held on the 7th day of January, 1769, Dr. Williamson was appointed a member of a committee, consisting of Mr. Rittenhouse, Dr. Ewing, Dr. Smith, provost of the college, Mr. Charles Thompson, and some others, eminently skilled in mathematicks and astronomy, to observe that rare phenomenon. The contacts of the limbs of Venus and the sun, as observed and drawn up by Dr. Williamson, together with the determination of the sun's parallax and distance, as derived from those observations, are communicated to the world in the first volume of the transactions of the Philosophical Society of Philadelphia.

Soon after this event, the Philosophical Society of Philadelphia, sensible of the correctness and ability with which these labours had been conducted, appointed the same committee, of which Dr. Williamson had been an active member, to observe the transit of Mercury, which was to take place on the 9th day of November, of the same year. The observations of Dr. Williamson, are also contained in the same important

volume of the American Transactions.

In the month of September of the same year, a considerable degree of publick alarm was excited by the appearance of a remarkable comet. Its tail was of vast extent, subtending an arch of ten or fifteen degrees. Dr. Williamson could not allow himself to believe that comets, more than other heavenly bodies, were destructive masses of fire. Having considered the subject with great attention, he presented to the American Philosophical Society, a theory which seems to have been perfectly new, and which he ever claimed as his own.

The paper he at that time published has lately been rewritten, and in an improved form has been again communicated to the publick in the first volume of the Transactions of the Literary and Philosophical Society of New York.

In the following year, Dr. Williamson prepared and published some observations upon the change of climate that had been remarked to take place, more particularly in the middle colonies of North America.

New scenes now opened upon his view. From some letters addressed by Dr. Williamson to his friend, the late Rev. Dr. Ewing, now in the possession of his family, it appears that in 1772, the Doctor made a voyage to the West India Islands, for the purpose of collecting subscriptions for the academy of Newark, in the State of Delaware, of which institution he and Dr. Ewing were both trustees.

Exceedingly anxious for the prosperity of the academy, while he was yet in the islands, he planned a tour through Great Britain for the benefit of that institution; his project was communicated to the trustees, and received their approbation; accordingly, in the autumn of 1773, Dr. Williamson, in conjunction with Dr. Ewing, was appointed to make a tour through England, Scotland, and Ireland, to solicit further benefactions for the same academy of Newark.

Thus honourably associated, they were received with great attention by the literati, and other men of influence in Great Britain: a circumstance in itself highly favourable to the object of their mission. Their success, however, was but indifferent, owing to the irritation of the publick mind against the colonies, which about that time was already considerable.

The constant hope of accommodation with the colonies, and the example of the King, from whom they received a liberal donation, encouraged them to persevere in the business of their mission until the autumn of 1775. Hostilities having then commenced, Dr. Ewing returned to America, leaving Dr. Williamson in London, who determined to remain, and to make some further efforts for the establishment of his favourite academy.

The vessel in which Dr. Williamson had engaged passage for Europe, lay in the harbour of Boston, to which place he had proceeded, and was waiting for her sailing at the very time at which that remarkable circumstance took place, the destruction of the tea of the East India Company. Upon Dr. Williamson's arrival in England, he was the first to report to the British government that occurrence; and, after a private interview with Lord Dartmouth, was examined on the subject before his Majesty's Privy Council: that examination took place on the 19th of February, 1774. On that occasion, Dr. Williamson ventured to declare, that, if the coercive measures of parliament were persisted in, nothing less than a civil war would be the result. Time soon verified his prediction.

We now come to an event, memorable by the commotion it excited at the time, and by the magnitude of the consequences which have since arisen from it; I refer to the discovery of the celebrated Letters of Hutchinson and Oliver; and here I beg leave to call your notice to a few of the earlier circumstances of the late revolutionary war, in order to communicate a fact hitherto unrevealed.

Although the disturbances which originated in the famous stamp act, had nearly subsided with the repeal of that noxious measure, and returning sentiments of friendship were every day becoming more manifest, yet new obstacles to a permanent reconciliation appeared in the at-

tempts of the British administration, to render certain officers of the provincial governments dependant on the crown alone. This measure of the court gave particular offence to the colony of Massachusetts, from the peculiarly obnoxious character of their governour, who uniformly manifested the most determined support to the views of the mother country.

However discreditable to his reputation it may be, certain it is, that Hutchinson was secretly labouring to subvert the chartered rights of the colony, whose interests he had sworn to protect.

Franklin, who had recently rendered himself conspicuous by his examination before a committee of the Privy Council, and who at this period resided in London, as agent for the colonies, obtained possession, through the agency of a third person, of certain letters written by Hutchinson; Secretary Oliver, afterwards Lieutenant Governour; Charles Paxton, Esq., and other servants of the crown; and sent by them from Boston to Thomas Whately, Member of Parliament, and a private Secretary of Grenville.

In these letters the character of the people of Massachusetts was painted in the most odious colours, and their grievances and proceedings misrepresented by falsehoods the most glaring and unfounded.

Dr. Franklin lost no time in transmitting these letters to his constituents at Boston.

Their petition and the remonstrance of the people of Massachusetts were communicated to his Majesty's Privy Council by Franklin, in person, and after a hearing by that board, the Governour and Lieutenant Governour was acquitted. It was on this occasion that Mr. Wedderburn, (afterwards Lord Loughborough) who was employed as counsel on the part of the Governour, pronounced his famous philipick against Dr. Franklin. In this speech, he charged that venerable character with having procured the letters by unfair means. "The letters could not have come to Dr. Franklin (says Mr. Wedderburn) by *fair means*—the writers did not give them to him, nor yet did the deceased correspondent, [Mr. Whately,] who, from our intimacy, would have told me of it: nothing then will acquit Dr. Franklin of the charge of obtaining them by fraudulent or corrupt means, for the most malignant of purposes: unless he stole them from the person who stole them. This argument is irrefragable.

"I hope, my lords, you will mark and brand the man, for the honour of this country, of Europe, and of mankind. Private correspondence has hitherto been held sacred at times of the greatest party rage; not only in politicks, but religion." "He has forfeited all the respect of societies and of men. Into what companies will he hereafter go with an unembarrassed face, or the honest intrepidity of virtue? Men will watch him with a jealous eye—they will hide their papers from him, and lock up their escrutoires. He will henceforth esteem it a libel to be called a *man of letters*, HOMO TRIUM LITERARUM."

The speeches of Mr. Dunning, afterwards Lord Ashburton, and Mr. Lee, who appeared as counsel in behalf of the assembly of Massachusetts, were never reported at length; but they chiefly insisted upon the noxious parts of the letters of Hutchinson and Oliver.

By the preceding extracts from the speech of Mr. Wedderburn, it will be seen that the chief subject of his vehement invective was the disclosure, by Dr. Franklin, of what was termed by the Parliamentary orator, a private correspondence. But the truth is, these letters could not be considered in any wise as private; but were as publick as letters could be. To use the emphatick language of Dr. Franklin himself, "They were not of the nature of private letters between friends; they were written by publick officers to persons in publick stations, on publick affairs, and intended to procure publick measures: they were therefore handed to other publick persons, who might be influenced by them to produce those measures."

Thus, Dr. Franklin performed a service which his situation as a publick agent required of him. But, notwithstanding the secrecy with which it had been conducted, the letters were soon after published by the assembly of Massachusetts; not however, until after the appearance

of other copies in Boston, produced by a member who, it was reported, had just received them from England.

But it is time that I should declare to you, that this third person from whom Dr. Franklin received these famous letters, (and permit me to add, that this is the first time the fact has been publickly disclosed,) was Dr. Hugh Williamson.

By this daring measure, was detected and put beyond question, the misrepresentations and design of Hutchinson and his associates; and, perhaps, no event in the previous history of the provinces excited more bitter indignation, or was calculated to call for opposition to the measures of Great Britain, to which these misrepresentations had given rise.

The lively interest, and the conspicuous part which Dr. Williamson took in publick affairs, did not prevent him, while in England, from bestowing a portion of his attention upon scientifick pursuits. Electricity was then a study, which, like chymistry at the present day, largely engrossed the minds of philosophers. The only paper which bears testimony to his investigations on this subject, is that entitled, "Experiments and Observations on the Gymnotus Electricus, or Electrical Eel," which was first published in the Philosophical Transactions of the Royal Society of London, for the year 1775.

Dr. Williamson had scarcely made his tour through Holland and the Low Countries, when the news of the declaration of American Independence reached him. He now concluded to return to his native land. He proceeded to France, and after a short time spent in that kingdom, he sailed from Nantz in December, for Philadelphia, at which place he did not arrive before the 15th of March.

The American army, at the period of Dr. Williamson's return from Europe, was in some measure organized, and every office in the medical staff, or in the line, that he could with any propriety accept, was filled up. He resolved, therefore, to remain in private life, waiting for opportunities which he trusted would present themselves in the course of a dangerous struggle. In the mean time, he undertook a journey to Charleston, in South Carolina, on a mercantile speculation.

Events connected with the revolutionary struggle subsequently led him to Newbern, for the purpose of communicating the small-pox to such as had not experienced the benefits of inoculation. This circumstance in part contributed to spread the name of Dr. Williamson, and to lay the foundation of that fame and confidence which he afterwards obtained in the State of North Carolina.

The Doctor had taken an early opportunity of informing the governour of that province, that if any circumstance should occur in the course of the war, in which he could be of use to the state, he might immediately command his services. It is known that the British troops took possession of Charleston in the winter of 1779—1780, and that the assembly of North Carolina ordered a large draft to be made from their militia, of from four to six thousand men, who should join the regular troops then ordered for the relief of South Carolina. The command of the North Carolina militia was given to their late Governour Caswell, with the rank of Major General. The General, putting Dr. Williamson in mind of a former promise, handed him a commission, by which he found himself at the head of the medical department, as physician and surgeon.

He remained two months with the enemy in Camden, during which time he rendered very essential services to the prisoners committed to his care.

In the spring of 1782, Dr. Williamson took his seat as a representative of Edenton, in the House of Commons of North Carolina. In that assembly he fortunately met with several members, whose brothers, sons, or other connexions, he had served in the army, or while they were prisoners. Those services were not forgotten. It was to be expected that a gentleman who had seen much of the world, and whose education had been so extensive, could hardly fail, with the aid of moderate oratorical abilities, to become an influential member in a deliberative body. Such in fact he proved. Among other bills which he introduced with success, we find one for erecting a court

of chancery, which had often been attempted, in vain, in that state. It may be presumed that old members, who had been accustomed to conduct the business of that house, were not gratified with being left in the minority by a gentleman who was, at that time, comparatively a stranger in their State. Yet when the election came on for members of congress, those very gentlemen added their influence to that of the friends he had acquired in the army, and he immediately was sent to the general congress without opposition. He continued at the head of the delegation for three years, the longest time that any member was then permitted to serve.

During the three years in which he was not eligible to hold a seat in that body, he served the State occasionally in its legislature, or in some other capacity. In 1786, he was one of the few members who were sent to Annapolis, to revise and amend the constitution of the United States.

The next general assembly, of December, 1788, passed a law calling another convention, to meet in the following year. It may be recollected, that eleven of the States having adopted the new constitution, it was immediately after carried into operation, and the first congress met in New York, in the year 1789, and of which Dr. Williamson was a member.

In January, 1789, Dr. Williamson was married to Miss Maria Apthorpe, daughter of the late Hon. Charles Ward Apthorpe, formerly a member of his Majesty's Council, for the province of New York: by that lady he had two sons: she died when the youngest was but a few days old.

After the loss he had sustained by the death of Mrs. Williamson, he resolved to retire from publick employment.

In 1811, his "Observations on the Climate in different parts of America, compared with the Climate in corresponding parts of the other Continent," were published, in one vol. 8vo.

In the following year, 1812, appeared his History of North Carolina, in two volumes, 8vo.

In 1797, Dr. Williamson wrote a short but important paper on the fevers of North Carolina, as they had prevailed in 1792, in Martin county, near the river Roanoke, and as they had appeared in 1794, upon the river Neus, pointing out the treatment that had been found most successful, and the fatal effects of blood-letting in fevers of that type.

In the American Museum, and in the New York Medical Repository, he also published several papers.

He enriched the American Medical and Philosophical Register with several valuable papers. The first entitled, "Remarks upon the incorrect manner in which Iron Rods are sometimes set up for defending Houses from Lightning," &c. conveys some important practical instruction upon that subject. His other papers were, "Conjectures respecting the Native Climate of Pestilence;" "Observations on Navigable Canals;" "Observations on the means of preserving the Commerce of New York," and "Additional Observations on Navigable Canals;" all printed in the same periodical journal of Hosack and Francis, under the signatures of *Observer*, or *Mercator*. Dr. Williamson was among the first of our citizens who entertained correct views as to the practicability of forming a canal to connect the waters of Lake Erie with the Hudson River.—See *Hosack's Life of Clinton.*

In the year 1810, Dr. Williamson was appointed by the New York Historical Society, to deliver the anniversary discourse, illustrative of the objects of that Institution.

In 1814, associated with Governour Clinton and others, Dr. Williamson took an active part in the formation and establishment of the Literary and Philosophical Society of this city.

The life of this excellent man was now drawing to its close. Hitherto, by means of the uniform temperance and regularity of his habits, he had, with very few exceptions, been protected from any return of those pulmonary complaints with which he had been affected in his youth. His intellectual faculties remained to the last period of his life unbroken, and in their full vigour.

His death took place on the 22d day of May, 1819, in the 85th year of his age, and in the sudden manner he himself had anticipated. See the more ample Biography by Dr. Hosack, from whose memoir the pre-

ceding account is taken. *Essays*, vol. i.

WILLIAM WILLIAMS was born at Lebanon, in Connecticut, on the 8th day of April, 1731, and was among the graduates of Harvard College, of the class of 1751. He for a while studied theology with his father, a respectable clergyman, but when his brother, Colonel Ephraim Williams, in 1755, was sent on to the frontier, to join Major General Johnson, William went with him, as one of the staff of the regiment. He was in the battle of the 8th of September of that year, which was fought at the head of Lake George, in which Colonel Williams, and the celebrated Indian chief Hendricks, were slain. After the campaign he returned to his native town, and entered into civil life, having been chosen town clerk, an office which he held amidst his future elevation for nearly half a century. He was also a member of the legislature, (the members of which were chosen twice a year,) for forty-five years, and was present at every session, except when he was acting as member in congress, when the question of Independence came up, and he joined heart and hand in the cause. He knew that the British ministry were too ignorant of the wants of this country, to know what course was best to pursue; and, if they could be enlightened, too proud ever to retrace a single step; he was therefore prepared for a bold movement. It was truly and rightly considered one of the least of his acts to sign the Declaration of Independence, although this was done as it were with a halter round his neck, as John Adams said they all did; the holding of those useful, small town and county offices, by which the people were encouraged to bear with fortitude all deprivations and hardships, and were taught to make cheerful sacrifices for the general good; these are the acts that make the useful man. Small men can act in their offices, but it requires no inconsiderable one to fill them. He died on the 2d day of August, 1811, in the 81st year of his age. In the great cause of our Independence he was truly a working man, for he spared no labour or pain in the cause.

JAMES WILSON, a native of Scotland, was born in 1742. James studied at St. Andrew's and Edinburgh. He had for teachers some of the first men of the age. He came to this country in the year 1766, after having finished his education, and became a tutor in the Philadelphia College. He soon commenced the practice of the law, having studied under the celebrated John Dickinson. He soon acquired a high reputation, and in a short time removed to Annapolis. After pursuing his profession for a while he returned to Philadelphia, where he remained until his death. He was a patriot of a high cast, and was sent to the provincial congress at Philadelphia in 1774. In 1775 he was elected a member of the continental congress, and was continued, for several years, in that body. In 1776 he voted for the Declaration of Independence: perhaps he did not think that the time had yet arrived when the measure should have been agitated, but as it was, he voted for it. Mr. Wilson was, for some time, an agent for France in this country, but he resigned that office, being not exactly satisfied with the course pursued by that nation. In 1789 he was appointed, by Washington, an assistant judge of the Supreme Court of the United States. In this office he died, while on a circuit in North Carolina, on the 28th of August, 1798. He was a good lawyer, a man of integrity, and deserves to be remembered for other things, in addition to having his name inscribed on the Declaration of Independence.

JOHN WITHERSPOON, D. D., a native of Scotland, was born in 1782. It is said that he was a descendant of John Knox, the great reformer. He was educated at Edinburgh, and soon entered into the study of divinity, and was in a short time settled as a pastor in a church. He was a fine scholar, and a high minded patriot. In the year 1768 he came to this country, and was inaugurated President of Nassau Hall. He was popular beyond all the other presidents of our colleges, not only in New Jersey, but throughout the country. His patriotick spirit made him enter deeply into the affairs of the country, and he seemed versed in all the great doctrines of freedom. He was a delegate in congress in

1776, and took a part in the deliberations on the question of Independence. He continued in this body for several years with distinguished honour. He often gave new views on many subjects under discussion in congress, and always proved himself a man of principle and of mind. He was an excellent teacher, a firm friend, a noble patriot, and a most useful man in every walk of life. He died in November, 1794, full of years and honour.

WINFIELD SCOTT YATES, only son of Christopher C. Yates, M. D. well known as an eminent physician, now of this city, was born in the fall of 1814, in Albany. At the age of seven years, he removed with his father to New York, and, even at this early period, we find him an object of attention from the powers of an uncommonly strong mind, and persevering disposition. At the age of eight he had become familiar with, and read with avidity, the works of Shakspeare, and other dramatick writers, and at nine years he had perused with apparent delight and interest, Pope's translation of the Iliad and Odyssey, and descanted with astonishing acuteness on the merits of the several heroes of the poem whose names and characters he distinctly remembered.* Until the year 1824, he had been fortunate in pursuing his studies under the direct superintendence of a father, himself an accomplished scholar, and distinguished for his talents, and the young tyro, animated by the intelligent and affectionate influences which surrounded him at home, and marked by a most cheerful temper, furnished to his family the most delightful assurances of future eminence.

On the thirtieth of May, 1824, he entered a student at the Washington Institute of this city, under the tuition of Mr. George W. Hall, a gentleman formed by nature, and well competent from education and experience, for the high and holy business of instructing youth. Mr. Hall had then, for the first time, successfully introduced the celebrated Pestalozzi's system of teaching into this country. An intelligent correspondent of the Albany Daily Advertiser, from whose well-written sketch of Winfield we glean several facts here presented to the reader, observes, that "when not quite ten years old, he had mastered the lower or common algebra, and even ventured to peer into the interminable realm of pure quantity, as it is treated of in modern analysis. Nor had he made these achievements at the expense of the lighter literature of the day. He was then known as a good linguist," &c. Until his entrance into the Washington Institute, he had acquired only a domestick education. His father had studiously kept him from the society of boys of his own age, but made him the companion of himself and his friends. His moral and intellectual foundation was thus early laid. At school, his teacher soon discovered in him a mind of no ordinary mould. Talent, veracity and integrity were his leading virtues, and, as soon as discovered, were rewarded with the confidence, esteem and patronage of his teacher, under whose paternal care he was fostered for the space of five years. In 1826-7 he produced, as scholastick exercises, some of the finest specimens of English composition; two of which were at that period published in the Mirror.

In 1828, at the age of fourteen, he translated for his amusement, from the French, "Stories for Youth." This performance was executed with so much taste and purity of language, that a noted bookseller obtained the manuscript, complimented it by securing its copyright, and having numerous descriptive plates engraved, published a large and profitable edition of the work. At the age of fifteen he left school. He now applied himself assiduously to acquire a thorough knowledge of the Greek, under a private tutor, and was contemplating a review of his classical studies in his private closet, when he was urgently solicited, by the principal of a literary institution at South Hadley, in Massachusetts, to act as instructer in the French and Spanish, and a class in mathematicks. This invitation he accepted with pleasure, as affording him an opportunity to fulfil his plan of revising his classical studies while disengaged from the hours of teaching. An ample library now enabled him to follow his favourite pursuits, and in twelve months, which he

spent at the school, he stored his mind with every species of literary knowledge. So anxious was he to be his own judge of the merits of classical authors, that while in the country, he made himself master, without a teacher, of the Portuguese language, for the single purpose of reading the only epick poem of note in that language, namely, the Lusiad of Camoens. He read the Greek, the Latin, the Italian, and the Portuguese, with ease, and both spoke and wrote the French and Spanish with the facility of his native tongue. During the last six months of his life he had made considerable progress in the German—it was his last effort. "It was here," says the writer in the Albany Daily Advertiser, "that the impulse which gave character to his subsequent pursuits was first felt. He became fond of philological disquisitions, and his acquirements as a linguist were only valued as subservient to the investigations of the general theory of language. It, however, became necessary to make choice of a profession. After much deliberation, that of the law was fixed upon; and some time, during the last year, he commenced his legal studies in the office of Mr. John Anthon, of New York. He threw himself with ardour into the laborious, and, in general, dry duties required from the youngest student in the office of a lawyer of established reputation and extensive practice. And the writer of this notice recollects, with melancholy pleasure, with what high anticipation for the future, his father, early in the last summer, related the confidential opinion of Mr. Anthon, as to the brilliant destinies of his pupil. He, however, did not forget his favourite pursuits: the last evening, (sometime in July,) which the writer passed with him, he had made prize of an antique Italian volume, and had found in it materials for supporting a favourite philological theory. Shortly after this period the insidious disease of which he died made its approaches, and he is now no more." So strong and retentive was the power of his memory, that on the repetition of any remarkable passage from a classical author, he would readily assign it its place. And he made the singular remark to his father, within an hour of his death that all he had ever read, which interested him, was as strongly impressed on his mind as if it had been written there, as on paper.

The writer of this sketch remembers him distinctly as a boy of eleven. His appearance was then engaging, his person well shaped, his manners were amiable and affectionate, his complexion uncommonly fair, and these peculiarities, combined with large and expressive eyes, and a smile of more than ordinary sweetness, added, greatly to the interest with which his strong mind and uncommon literary attainments caused him to be regarded. In the intervals of his weightier occupations, we recollect well his commencing to learn the flute, which instrument he soon became master of, playing at sight the most complicated pieces of musick, and with a taste, feeling, and effect really surprising; and was considered, at the age of sixteen, one of the best amateur performers in the city.

He died of pulmonary consumption, in this city, January twenty-eighth, 1833, aged eighteen years. His vigorous and superiour mind distinguished him to the fatal moment. Worn down by a lingering disease, during which he happily never suffered an hour's pain, either of body or of mind; his patience never failed—his sweet temper was never ruffled—his firmness never deserted him. Even in nature's last extremity, when worldly things had already passed far behind him—when he was leaning over the awful precipice of death—his words were calm, and his mind seemed struck more with the sublimity of his situation, and his heart more pained at the separation from those he loved, than touched with any selfish fear. Had he lived longer he could scarcely have failed to fill a distinguished place in the world's eye. F.

We have read the letters and other manuscripts of Winfield Yates, since his death; and are of the opinion that there have been but few instances in our country, or in any other, of such extraordinary talents and acquirements at such an early age. His mind was more philosophical than Henry Kirke White's; his knowledge of languages was

more extensive, and his mathematical acquirements of a higher order. He had no sickly sentiment about him, which often prematurely ripens youthful genius. The very child makes sage reflections on the great doctrines of a future state, while contemplating a grave. In Yates's productions there is a strength of manhood, and grasp of thought, that surprises every one who knew the tender years of the writer. His writings are quite voluminous, and if gathered, would as a whole, as they now do by parts, support all that his warmest friends have said of his talents and acquirements.

We had intended to have been more particular in our statements in regard to this extraordinary young man, and made minute inquiries of his instructers and school-mates, in order to have given a fair analysis of his mind; but long before we reached this letter of the alphabet, we became so much exhausted with the labour of writing biographies, that not even brilliant talent, or the untimely fate of genius, could rouse us to do justice to the subject; we therefore took an extract from the highly creditable obituary notice written by the class-mate of the deceased, Theodore S. Fay. Esq. On some future time we may be able to make amends for our scanty notice now; or, perhaps, which would be better, some happier pen may be engaged in the work. But we cannot close these remarks without calling to the minds of his parents and friends, the imperishable lines of Virgil, recited before Augustus and Octavia, which brought up the image of one who died as young and fuller in his worldly promises, but not greater in the empire of mind, than the youth for whom we would strew the purple flowers.

'O nate! ingentem luctum ne quære tuorum;
Ostendent terris hunc tantum fata, neque ultra
Esse sinent. Nimium vobis Romana propago
Visa potens, Superi, propria hæc si dona fuissent.
Quantos ille virum magnam Mavortis ad urbem
Campus aget gemitus! vel quæ, Tiberine, videbis
Funera, cum tumulum præterlabêre recentem!
Nec puer Iliaca quisquam de gente Latinos
In tantum spe tollet avos; nec Romula quondam
Ullo se tantum tellus jactabit alumno.
Heu pietas! heu prisca fides! invictaque bello
Dextera! non illi se quisquam impune tulisset
Obvius armato, seu cum pedes iret in hostem,
Seu spumantis equi foderet calcaribus armos.
Heu, miserande puer! si qua fata aspera rumpas,
Tu Marcellus eris. Manibus date lilia plenis;
Purpureos spargam flores."

THE END.

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